# etc.

## a review of general semantics

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Book Reviews: A. KORZYBSKI, Th. DOBZHANSKI

**Vol. III, No. 1** **Autumn, 1945**

# ETC.:

A REVIEW OF GENERAL SEMANTICS

VOLUME III | AUTUMN, 1945 | NUMBER 1

CONTENTS

HOW SANE IS 'SANE'?.....Adrian Young 1
THE AUTONOMOUS FIELD (with Foreword by A. Korzybski)..Gustaf Strömberg 12
MUSIC, THE DISCIPLINE OF SILENCE.....Stewart W. Holmes 27
THE SEMANTICS OF QUILLER-COUCH.....Arthur Minton 31
READING AND UNDERSTANDING.....H. R. Huse 35
THE HAYEK YOU SAY! Two Reviews of *The Road to Serfdom*
BACK TO GRANDFATHER.....Stuart Chase 41
THE RISING STOCK OF DR. HAYEK.....Lawrence K. Frank 46
DISCUSSION:
MISSING: ONE SIGNAL REACTION.....Alfred C. Ames 55
IMPLICATIONS OF GENERAL SEMANTICS FOR PSYCHOSOMATIC MEDICINE.....Louis Paul 58
ADDITIVE AND NON-ADDITIVE.....S. I. Hayakawa 62
BOOK REVIEWS: Jerome Frank, *Fate and Freedom* (A. Korzybski); David C. Rife, *The Dice of Destiny* (Th. Dobzhansky); Porter Sargent, *Between Two Wars* (A. Korzybski); Carl Binger, *The Doctor's Job* (Bernard S. Matthews); Gwethalyn Graham, *Earth and High Heaven* (S. I. Hayakawa) 64
READERS' CORRESPONDENCE..... 74
NEWS AND MISCELLANY..... 78

ETC.: A REVIEW OF GENERAL SEMANTICS, official organ of the Society for General Semantics, is devoted to the encouragement of scientific research and theoretical inquiry into Non-Aristotelian systems and General Semantics. Issued four times a year, September, December, March and June. *Editor:* S. I. HAYAKAWA. *Assistant Editor:* F. K. RICHTER, Department of Language and Literature, Illinois Institute of Technology. *Consulting Editors:* A. KORZYBSKI, M. KENDIG, Institute of General Semantics. *Associates:* WENDELL JOHNSON, Professor of Psychology, State University of Iowa; RAYMOND W. MCNEALY, M.D., Professor of Surgery, Northwestern University; IRVING J. LEE, Major, United States Army; CHARLES B. CONGDON, M.D., Psychiatrist, Student Health Service, University of Chicago; SANFORD B. MEECH, Associate Professor of English, Illinois Institute of Technology; FRANCIS P. CHISHOLM, Ph.D., State Teachers College, River Falls, Wisconsin. Subscription price (payable in advance): $3 a year. *Publication Office:* 217 W. Jefferson St., Bloomington, Ill. Entered as second class matter, April 11, 1945 at the post office at Bloomington, Ill., under the Act of March 3, 1879. *General and Editorial Offices:* Illinois Institute of Technology, 3300 Federal St., Chicago 16, Ill.

SOCIETY FOR GENERAL SEMANTICS: *President,* Wendell Johnson. *Directors:* Raymond W. McNealy, M.D.; S. I. Hayakawa; Mrs. Carl M. Plochman, *Evanston, Illinois;* Charles B. Congdon, M.D.; Mrs. George A. Taylor, *Chicago. Secretary-Treasurer:* KARL G. HAUCH. *Business Manager:* ANNE (MRS. F. W.) COLEMAN. Correspondence both to the Society and to ETC. should be addressed to 3300 Federal St., Chicago 16, Ill.

VOL. III, NO. 1 AUTUMN, 1945

ETC.:

A REVIEW OF GENERAL SEMANTICS

# HOW SANE IS 'SANE'?

ADRIAN YOUNG*

SOME of the patients had been acting as if unaware of what was happening around them; and some were aware of things that weren't happening. And then it came to me. Suddenly, 'That's the sort of thing I do myself,' I said. Not so often, or in ways as easily seen, nor do I ever do it with important acquaintances, when I keep guard on myself with a critical eye. But in my off moments, every now and then, I do it.

I

What sort of thing? The sort Matthew Prin does. He seldom hears me when first I speak to him, and I expect my opening sentence to be broken by a 'What do you say?' that springs to his lips on a sudden effort of attention. My voice must first find him in the soundless carapace that all but seals him and pull him to a chink in it. He will ask me for the soap when it lies white on the red squares by his feet. He will set things down with a bang, for he is so absorbed he is never quite aware where the floor is. I saw him dumping dead flowers into a waste basket, and although a quarter of them fell on the floor he rushed away without seeing them, anxious to return to his chair, and to whatever is going on within him as he sits. Matthew is a schizophrenic, just eighteen years.

But it wasn't he, it was I, who before mounting my bicycle to ride it home, took my keys out and locked the wheel—only yesterday.

II

And the sort of thing I have seen in Peter Ylonen. I find myself in agreement with many of his remarks, for he is well-informed, an acute observer, and an infectious enthusiast. He will sweep, wash and polish around the ward, not only with willingness but with gusto. In the crowded morning washroom he will do his chinning the bar and his presses, conscious that he is a good example. He must have his exercise to keep his bowels and his muscles fit (flexing his right arm as he tells me so). He will give us a lecture on cabinet-making, diet, or the sex life with fluency, animation, assurance, and, it must be admitted, sense and persuasiveness. He sometimes hustles an unresisting depression patient into doing something that seems to him good for the patient (and often he's right). With nurses and attendants he will wrangle violently and at length—to the point almost of blows—on some point of another patient's treatment on which he differs. A manic reaction-type.

And the chief distinction between me and Peter is chinning the bar. I never do it. Apart from that, I give as many

* Pseudonym of a Canadian writer.

lectures, but none on cabinet-making. My friends tell me I act as one who believes he knows better than they what is good for them. And I seem to impress others as living in a permanent emergency, judging by the number of times I am asked, 'Where's the fire?'

III

Stephen Old is a depressed case. He started with nothing as an orphan. He spent an exploited youth on a farm. He was discharged from the army with a stomach ulcer (often a companion of anxiety). He was out of work for ten years of depression but raised five children (something to worry about). Three years ago he found a job he liked and that paid well. He worked long hours and with great energy. His employers considered him scrupulously honest and highly conscientious. He began accusing himself of taking ten dollars out of the receipts. Perhaps he was tired out, perhaps distrustful of his good fortune, worried that no longer he had anything to worry him. But his habit of anxiety had to have stones for its tendrils. Of his theft there was no proof, and no one believed him. He then said he had carnally known a cow at the age of eight. And this sin he has committed, he declares, has brought retribution forty years after, and the world is at a standstill. 'You see, Adrian, there's no lights in the windows. I don't hear the streetcars. They didn't have the radio on tonight. Was there a paper today? And it's all on account of me. Children are dying out there.' So he cut his throat.

Not that I ever got as far as the razor. But there are times that my past appalls me. All I can remember of it are things I didn't say, the clever things, the manly things, the things that would have made someone happier. I remember the careless deed and the clumsy phrase that cost me a friend. And with scrutiny the small becomes great. Every inventory shows only debits—in appearance, manner, livelihood, knowledge, religion. How can anyone like me? But they don't. And I can't vary the pattern—my tomorrows are my yesterdays. I have no desire for more, if this is my life. But I have never taken the next logical step—the rope, the razor, or the overdose. Life still is pleasanter than that for me. I write a poem or a letter to a woman, I trudge in the rain, or play some *chanson triste* with my toneless fingers. If I had lived Stephen's life, if I had no one to write or talk to, if I couldn't play at all—but that's only speculation.

IV

Basil Spring is paranoid. After his father had run away from his mother, he was ashamed that at nine or ten he should be sleeping with his mother. Later he quit several jobs for he knew there were men there that were saying he was going crazy. They laughed at him. 'It won't be long now', they said. It was a girl, the girl in the Salvation Army hostel who told them. She was after him to marry him. Down south she followed him, five hundred miles, and when he moved east, four hundred more. He saw her on the street car, heard her talking on the street behind him: 'Sure he's going crazy. He's going to lose his hair first, and then he's going crazy.'

Oh no. I'm not as bad as that. But I have wondered whether the girls on the street car who whispered and laughed and looked in my direction were laughing at me. Had I tied my tie outside my collar? Was the fly of my trousers open? And perhaps I was wrong. Perhaps they weren't speaking of me. When Basil thinks this, he's wrong—nearly always.

By finding in myself symptoms displayed by the patients, I came to under-

stand the meaning of them. Their charts or versions of the outer world were falser than mine, and more than with me the things they did led them further from their desire. In some part of their relations to the outer world they were self-thwarting, maladjusted, sick—just a trifle more than I was. So I had the key to the door, but they hadn't.

To react in any other way—to be annoyed or impatient, say, at a mentally-ill person—is itself maladjusted. One day when Basil's treatment had been terminated, and he was resting, one of the other patients was talking to the nurse and me. Cheerful, a little boisterous, his voice rose, and mine rose too. 'What do you think this is anyway?' said Basil, sitting up, 'a beer parlor? Am I supposed to have quiet or am I not, nurse?' He was right, of course, and I've often put things myself just as bluntly. But the nurse complained that he was always 'crabby' and 'mean'. Another morning he was changing when he suddenly paused and glared at me. 'I hope you've found something interesting to look at', he said. I wasn't specially aware of him. I was just there and I was supposed to be there. One night the nurse and I were exchanging whispers. The day before she had left her key at home. With much trouble, she was telling me, she had entered by the window, to find that her husband had left the door open. It was amusing. Suddenly Basil was in front of me. 'Are you a man?' he said. 'If you are, stand up and put up your fists.' He had recently passed us on the way to the toilet, and I knew he believed we'd been laughing at him. Typically paranoid. An over-anxious assertion of the self that at last leads to its thwarting. Not 'nasty'; not 'crabby'; just sick.

V

And there is conduct apparently praiseworthy. Carl has always to be reassured that there is food for all the patients before he will eat. But it is hardly safer to judge by the surface here. Carl had no reason to assume that others had less food. He was expressing, not at all to the advantage of others, a feeling of unworthiness. Carl's capacious and volatile sympathy is constantly engaged for others: for one of his fellow patients, for instance, who before smoked a couple of packages of cigarets a day, and frets now on four; for his brother, also in hospital, who he said was a fine boxer but failed in a bout with the light-weight champion because he wouldn't agree to dishonest fighting; for the moneyless patients who were not understood, he said, by doctors, who came from well-to-do homes; and for himself, as he told his history of sleeping behind log piles, living for days on dry bread, excited beyond control by the woman he lived with who drank his money and bedded with other men. But the number and frequency of his causes, and his occasional want of judgment in choosing them, suggests that he is moved as much by his need for vehement expression as concern for others.

And among those who glory in the name of sane, the gestures of love and hate are open to question. There is the kiss of habit and the blow of the life-saver. But apart from these, they may express a compulsion to kiss or hit, not a desire to kiss or hit *me*. What is expressed is an inner state, never any relation to me at all. How maladjusted then to resent or enjoy the blow where there is no hate and the kiss that expresses no love, me-wards.

The perfectly sane, perfectly adjusted man likely couldn't be found. For who never has anything wrong with his body? So 'mental' (psycho-somatic) illness is

also liable to be found, acute or mild, anywhere. Indeed, where there is a full history, illness can be seen as the slow hardening over the course of years of habits of response, habits that hinder a person's adequately knowing or dealing with his world. Mental illness doesn't suddenly appear where there was none before. Nor does a vessel sink without a plank be sprung or stove in, or without a slow rising of water to the gunwale. Nor is a person once ill ever more to be shunned, any more than if he had suffered from syphilis or cholera. Illness of any kind comes and goes, and fixing a date for either the coming or the going is neither useful nor possible.

## VI

When I visited Bob Smart, he lay grimacing, winking, waving his arms; and continuously talking: '... This is Sir Robert Smart. We are standing by for Bob Smart speaking from London. Take it away, Bob Smart ... This is GSE, E for Extra, broadcasting on 2.916 meters; GSB for Broadcasting on 9.51 meters, and GSD for Daventry broadcasting on 11.25 meters ... I have three questions to ask the radio audience: who succeeded Pope Pius the 12th; secondly, who succeeded Edward the Eighth; thirdly, where was Mr. Henry Smart at three minutes from yesterday ... Is that Robert Smart's body or Robert Smart's bier. Do you know that bier besides being something to drink is something George the Fifth knows about ... (laughing to himself). Cut it out, Bob, you fool—I can't stop it ... anxious son desires to communicate with anxious father. Hello, anxious, this is anxious speaking ... Hello, Leningrad. Hello, Lenin, hows grad? Sure I'll smoke Grads. How's grads? ... I have no faith in anybody, not even in my own dead body ... This is the voice of the Andes in Quito Ecuador South America, heralding Christ Jesus' blessings ... Clear the channel for Bob Smart, official representative of Radex ... Go ahead, Bob ... You're a dead man, Bob Smart ... Make up your mind, Bob Smart; if not, we'll have to call in our friend, Pope Pius the Seventh, who will declare that the time is up, for it's either up or down, Bob Smart ... Robert Smart was born of the Virgin Mary, suffer'd under Pontius Pilate, was crucified, dead, and was buried, and on the third day of our Lord, rose again ... You, Harriet Cole, shall be called upon to justify before God that Robert Smart never existed upon the earth ... Harriet Cole, swear by Almighty God, that you know not the whereabouts of Robert Smart ... On the eighth day of June last, Mr. Henry Smart had driven us home in his car, and had stopped on Riverside Boulevard. As the door closed, it caught the thumb of Mr. Robert Smart, causing it to bleed, and we had to proceed to a druggists to get it dressed ... It was a warm moonlight night, and Miss Harriet Cole was with us ...'

His grimaces were knowing and ingratiating: 'You and I know what its all about'; or debonair: 'You can't help liking me for I am gay and witty'; or childlike: 'I am helpless, I need you, so you have to help me and like me'. These grimaces I could have said were smiles, but that moment when the wind of his malady had ceased moving, his face hung as a cloth mask with blank eye sockets. They hardly expressed a continuous personality more than his talk did. Like flotsam from a wreck, they seemed as if dissevered, unexpected, illogical; yet in their own frame of reference had logic and meaning.

The boy was sixteen. A few months before he had stood first or second in a class of forty; and the Stanford-Binet

test had placed him as a superior adult. Several had remarked in him a vein of humor. He had been commended for his care in collecting and accounting for subscriptions to the school paper. One day he went 'insane' and flung himself down the cellar steps. Ridiculous. It was the present stage of a process that sixteen years before had started.

His mother was only happy in the focus of attention. Her pabulum was parties. She invited her friends to affairs at home, but she discouraged her husband from inviting home his. She was not pleased when her child was born and from his birth showed him no love. 'Take him away from me', she was often saying. Red marks appeared on the child's body in his early weeks. His father couldn't account for them; but he had no sooner said he was going to consult a child specialist than the marks vanished and he never saw them again. He later believed them to come from the mother's pinchings.

The things he never spoke Bob confided in a Notebook. His relations with his mother appear not only in his resentment of her telling people 'I shall send my son on an errand'; and in saying 'I like evil. My mother and all her family liked evil and I have imitated her'. They appear also when he writes 'Here are some necessary qualities of a good mother: kindness, courtesy, motherliness, modesty, honesty: christian, friendly with everybody as far as possible, proper disciplination of children', of which I inferred he had found the anthesis in his mother.

His teachers observed that he didn't mix with other pupils, and walked the way between school and home alone. In sports and games he took no part, and at the boys' camp he went to at his father's urging, he felt out of place. In the past year or two he had been keeping more and more to himself. He had few boy friends and none among girls. His boy friends he had lately been avoiding, sensitive to things they had said about him, it seemed. Radio was his chief interest, and his father had bought him a strong receiver. Since he would be alone, his father encouraged him in the systematic logging of stations.

He had, his teachers noticed, a tendency to brood and to take himself too seriously. In his Notes, he says 'I dislike showing ignorance but I stopped voluntarily answering questions in class because it looks as if I were showing off. I lost my interest in Latin when the teacher stopped asking me questions, I believe, because she thought I was learning the subject. Result—I got 81% in Latin, 19% short of what I should have made'. 'I always do my calculations in geometry differently to others, reaching a wrong conclusion, so that I will be able to explain my method. Some of the other students have noticed this.' 'Sarcasm gets me down, teasing gets me down, a joke on me gets me down, even though I may laugh at the time, I worry later.' 'I seem to eat more when I am upset.'

Self-conscious as he was, he was driven to impress his viewpoint on others—groping for a cause, perhaps, to which he could give himself. To one of the teachers he proposed organizing the class for a salvage drive. The teacher suggested the matter be discussed by the class, and heard no more of it. His father sent Bob to a farm last summer. The farmer was an opponent of the government, and Bob returned fervidly of the opposition, projecting a book on the principles of national planning. He read some papal pronouncements on economics and in a letter to a friend expressed much interest in Pope and Cardinals. Latterly

inattentive at school he fell to 26th. And in his Notes he wrote: 'I did want to be a leader among men, but now I am puzzled'.

With Harriet Cole I sat beside him for an hour. She was his only other visitor apart from his father. She was a nurse and her mother had boarded Bob for his last few months at school, for his father had hoped that getting him away from home would improve his condition. Only now and then did his talk recognize her. He would sing a theme from Beethoven. He was very fond of music, she said.

Well, there is the pattern. When the person nearest a child is wanting in love, doubt grows whether anyone loves him. Fear of hurt finds it where none is intended, and is a bar to friendship. If not love—respect perhaps: he studies and in class tries to show his attainments.

This (for the mentally ill are often more than commonly sensitive) he feels is resented. And as with all for whom a hundred per cent is an inner need, second place failure, he was often thwarted. Respect—if not from knowing more, from doing more: he has a plan for the classes, increasing the flow of salvage, but proposing it to the class, as the teacher advised, for one as diffident as he, is not to be thought of. He plans a book on economics, and is not encouraged.

His doubts crumble the self-assertion demanded in approaching girls. He masturbates and feels remorse for it. He over-eats—not so much for the food, but food as a symbol—reassurance at least on one level. He speaks much of religion—last haven of the unloved. Once he goes to an Episcopalian Church, and in his illness after many months, recites the liturgy. But he speaks most of the Pope, who proffers a strong staff to doubters of themselves.

His endless talk and his grimaces that strive to pose an all but impossible bar to the world that hurt him, these tell the story. His grimaces reach for affection. The warp of his talk is radio, which in more than common measure he had mastered; stretched across it a weft of thwartings and wishes. For him the channels are cleared; knighted and a great wit; it is he puts the questions; it is he was crucified, dead and was buried; he has no faith in anybody; and a torn thumb is a sweet recall for it had gained him a charming girl's compassionate attention. And flecking bold the web's whole width —death.

Schizophrenic reaction-type with a manic trend: poor prognosis. Patients requiring lengthy treatments are taken to a larger center, so after a time Bob was transferred. For the few minutes before the attendant came for him, Bob and I were alone. After he was dressed, I sat him down and ignoring his verbal vagaries, told him this: 'You are sick, Bob, for you believe the world has no love, no place for you. But you are going to be well again. Your father wants you to be well. So do I. And when you're well once more, you can help those who are sick, for you have the capacity, and he can best feel for the sick who has been sick himself.' It was not much of a gift, but it was the best I could; and from what I know of such cases, I felt that for all the interference that poured unceasing from his lips, he was likely receiving.

And where in the sixteen years did Bob cease to be sane? At as many different places as there are definitions of 'insane'. Doctors don't use the word but many quaint notions of its meaning can be found among laymen. Such a definition or notion is a glass window that stands between me and the patient. Whatever kind of glass I put in the window the

patient is unchanged; but if the glass colors or distorts him it will greatly alter the relation between him and me—to the damage of both of us. 'Insane' suggests Bela Lugosi, monsters, and sudden death, something otherworldly and fearful (and in fearing we cease to understand and are cruel).

And our definitions are so framed as to exclude ourselves. But in a world of imperfect people, few can escape false evaluations, acquiring them by contagion from the maladjustments of parents, teachers, leaders. It becomes none of us to assume ourselves better than those in hospital—they were perhaps more sensitive, had it a little tougher. Time and again, as patients have told me their stories, I have lived again young agonies of mine. Why am I not, I wonder, in the next bed? I wrote, like Bob, many pages of diary; studied for the first places; played no games; feared, yet fretted away from, girls; walked alone in the rain. Histories like this are viewed gravely. But though many differences of opinion, clashes of will, I never had cause to doubt that my parents loved me. And I was lucky never to meet a problem past my strength at the time it was necessary to meet it. And I somehow broke through the schizophrenic shell that slowly was encasing me, and my relations with others came to be tolerably objective. But it's hardly a thing to claim credit for.

For most people, the matter is extremely simple: the 'nuts' are behind walls, and the 'sane' (including themselves) are outside. But you and I are outside not so much because we are 'sane', but because we are still able to earn a living, or because our neighbors haven't found us too unbearable a nuisance, or because mental hospitals are very overcrowded and there isn't room for us, or mostly because we haven't the sense to know when we're 'mentally' sick, and to go to the proper place for advice or treatment. So let's banish the word 'insane' before somebody tumbles and labels us with it.

More important than labelling people is to do what we can to prevent mental illness or cure it when it happens. What can a person with no training do? But before that, what is important in a psychiatric nurse's approach to a patient? According to Miss Ingram, it includes politeness, warm and welcoming; the listening that is a compliment and the patience that is a disguise for interest in another person; even temper, never upset by emotional disturbances in others; an absence of criticism, in tone, word or gesture; and poise—for embarrassment leads to inappropriate behavior, to assumptions of superiority, or to withdrawal from a situation where we are not at ease. It is good nursing, but there's none of it that wouldn't pass for good manners, manners that in charming, heal.

And much of our child lore is good psychiatry. It is not well to talk down to child or psychotic, for it is recognized and resented. His evaluations may be falser than usual for adults of our culture, and yet his perception and reasoning be quite acute. Hasty conversations, reluctantly spared from other tasks we are agog to be away to—their effect is alike on children and on patients whose response is tardy and effortful; discouraging, confirming feelings of neglect or unworthiness. We try to arrange our work that our meetings may be leisurely. Sick people readily take talk as being of them, even when it isn't; and if they are discussed in their hearing they will not unreasonably take it for slighting or discourteous. (Even when seeming to be stuporous, they may be alertly aware of what is passing). And in a sick person

the objective reference of words has paled, and they are little more than symptoms of inner states. We neither let their flattery gratify us, nor their obscenity disturb. The words haven't the meanings they would have in the mouths of the relatively well. Parallels like these are not surprising, for in many reactions mentally ill persons are still children; or failing to meet their adult problems, fall back to the child, for as children they had adjusted themselves well and quickly. The same fears, the same tantrums, the bed-wettings, the using food for meanings besides nourishment, the unexpected remembering of things not seemingly noticed—these can be observed as well in the ward as the nursery.

None who reads this will deny himself capable of good manners or of raising children; and with a little reflexion on the meaning of these and a firm will to apply them, we are equipped for the furtherance of mental hygiene in ourselves and our neighbors—and we needn't be on the Nurses' Registry to do it. A person who speaks to hurt us, or loses his temper or swears is obviously ill: his conduct is no step to the solution of the problem facing him; it is the opposite —for his neighbors who are with him are less likely to help him now than before. How well then for our own peace to treat him thus: 'The meaning of his doings is not hatred for me, but sickness in him; and what *I* do must help him get better'.

## VII

It was meeting Ann last week that made me sure of it. Not for months had I seen her, and as we sipped our coffee she told me of Stephanie. Ann and Pearl share the same flat. Pearl has a sister, Stephanie. For a year she had been in a 'Mental Hospital'. There was nothing they could do for her, said the doctors; Pearl therefore took Stephanie to stay with her.

The mother of Stephanie and Pearl appears to have been capricious. At one moment she was doing things that Stephanie should have been doing for herself; and at another she was critical and unfriendly. She could be both at once: 'It takes you so long', she would say, 'I'd rather do it myself'. Once, on her own, Stephanie with care did her lank hair up in a way that suited her better. 'You look half decent today', was her mother's response. 'I don't know why you can't do it all the time'. And Stephanie pulled her hair down as it had been.

Feelings of insecurity would normally follow in the absence of other factors; and their expression in Stephanie was demands on the attention, the property, and the time of others. She would finish nothing she began. Brushes and other toilet articles belonging to the other girls, as she needed she took. She spoke in self-pity; she was uncouth in her table manners and careless in her appearance, letting her hair hang lank and unpinned. And sometimes when alone she would break into laughter.

Not comfortable living with her, especially when you aren't her sister. And Ann (who isn't) is a salesgirl; she doesn't read widely; she enjoys company. At first she closed her door, and tried keeping Stephanie out of awareness. But Stephanie, loudly awake, reached her (and the adjoining flats) doors or no doors. So every night she had to be given a sedative. During the day she couldn't be let out, so two of the neighbors upstairs took turns in staying with her. Ann would often have Pearl to sleep with her when her sister was making rest impossible. And one very important night, when Pearl was depressed and weary, Ann said

to her, 'Now don't worry. You're not alone in this. We're both in it.'

Ann concluded Pearl to be soft, selfless but soft, and she adopted a manner to Stephanie that was friendly but firm. In living with other people, she told Stephanie, some things had to be given up, however satisfying, and if she chose not to give them up, off she must go. This was a strong motive to improvement, for she much preferred staying there to living in hospital.

She used all the hot water in the block one night, by lying in the bath, tap on full, and the drain open. The caretaker came inquiring for the wastrel. 'You're living in the same house as a whole lot of other people', said Ann to Stephanie, 'and you wouldn't want to start off by having them dislike you'.

Another night they heard her going out. Through the window they saw her cross the lawn with her coat on. Pearl was for following her. 'It's that sort of thing you've done too much of', said Ann. 'It's the sort of attention Stephanie wants but shouldn't get.' Stephanie had gone for a swim in the lake naked, and wakened up an annoyed caretaker to let her in. When she came in, Ann told her, 'If ever you do that again, I won't wait till morning. I'll get a cab and you'll go right away, and I don't care where'.

Stephanie exploited Pearl. She could wheedle, sulk, or wear Pearl night after another into going out with her. One week Pearl had been out with her three successive nights. On the fourth Pearl refused and Stephanie was angry. 'Pearl works all day', said Ann, 'and she is much too tired. It is very thoughtless of you to ask her.' No longer a squabble for two—there was what stays the blows and words of contenders: the desire to be respected by the onlooker.

Instead of merely denying irresponsible demands, Ann tries to set Stephanie on her own feet. 'Give me a cigaret' she asked once. Though Stephanie is thirty, Pearl said, 'I don't think you should smoke, honey'; and though Stephanie is thirty, she sulked. Ann said to her sharply, 'You smoke when you can afford to buy your own—we can't keep you in cigarets'.

After a while she began to clean the silver and wash the floors, though she didn't like it, and usually left spots that hadn't been cleaned. She began to crochet. Ann, who works in a lingerie shop, had brought home two blouses for a friend. Stephanie was taken by one of them the moment she saw it. Was it her size, could she try it on? She liked it even better when it was on her, 'but I can't pay for it', she said. 'You're doing crocheting for Claire—you can pay for it out of that', said Ann.

'Every day,' said Ann, 'I see a change in that girl. If you came in, you wouldn't notice a difference between the three of us. At night she used always to wait for someone to make her Postum for her. Last night I was making tea. I asked each of the girls if she wanted any. Stephanie said "I'll have Postum," took the tin down and made it herself.

'I always talk to her as one girl to another, just as I should with anyone else, never talking down to her; and—especially when I have to step on her—treating her as an equal. I make a point of noticing any pains she takes with her appearance, telling her she looks nice, and that to get a job she must be careful of her looks. And I have had to train her in table manners like a child.

'And her morbid gloomy thoughts! One day she told me of a hospital of two hundred lepers, and kept saying how dreadful leprosy must be. Then she'll complain how hard her life is. I don't

even reply to things like this, or I say how lucky we are to have an apartment like ours when places are scarce, or how late in the fall the warm weather has lasted. "Look at your wrist", she once said to me, "Isn't it terrible?" "Look at your own", I said, "Mine's all right".

'And one day she said to me "Where am I going to stay next week?" "Here", I told her.—"And the week after?" "Here of course".—"And the week after that?" "This is your home", I said, "and you're going to be staying here as long as you want to." '

For over a month she talked of taking a job, and of the kind of work she would like. She gave more time and care to her looks. And then, five months ago she signed her name to her first pay check. She had begun to work half-days in a box factory. At the factory she found a friend and now, says the friend, she is more sure of herself and quicker in her work. She was taken on full time. She decided on going to stay with another sister. Her work took the sister to another town, leaving Stephanie on her own; and she is thriving on it.

This could I think be described as accepted practice—though Ann has never opened a book on psychiatry. It's a compound of good manners and effective child-raising. Ann is a Christian Scientist. I am not, and I can't profess to do justice to her tenets, but she refuses to admit, I believe, the existence of imperfection, of which illness is an aspect. She keeps her attention on the good and healthy sides of a person, thus helping these to expression, for people often become what others consider them. And it's better treatment than some I've seen in hospitals. A patient's illness largely convicts the people—and all the people—he lives with.

In mental illness diagnoses are often referred to as impressions, and are rarely rigid. Paranoiac, schizophrenic, and manic-depressive reaction types are a spectrum with mingling margins. Life is elusive, protean, and categories are little use in coping with it. This is shown by such impressions as these: 'schizophrenic with a paranoid thrust'; 'manic-depressive psychosis, depressed phase, with a schizoid color'. There are strictly as many diseases as there are sick men, for the absence of health has as many personal styles as health has, and their labels and their classes change as the generations. It may be we should look less for disease, for none are perfectly adjusted, and all are in a measure ill. What we desire, what we should seek, is health,—label, class, diagnose it as we like, but ensure that everything we do waters and makes green the wellness that remains.

It's all very simple. The person who is 'mentally' ill (more ill, that is to say, than ourselves) may show signs of brain hemorrhage, alcoholic or bromidic poisoning, subluxation of the spine, goiter, low basal metabolism, or other gross and obvious physical concomitant. But in most cases physical signs are not with our present means detectable. In most cases the patient confronted the same types of situation as the rest of us. But he likely met more unkindnesses, more threats to his feeling of security, more thwartings than the rest of us; and he likely met them younger, when all his world was the doings of a few people, who were changeable, critical, neglectful, and he acted as if all men were like that few. So he became a little more withdrawn from the world we call real, or a little more excitable, or a little more suspicious, or a little more depressed than the rest of us.

The cure is to help him understand the growth and reasons for his illness;

and the restoration of—call it peace, or security; and the acceptance of all that accrues from his own doings or decisions; breaking down his formulations about 'all men', or 'human nature', or 'the police', or as the case may be; bringing him to search for the kind and the good in those he lives with; but these are words aplenty, for it is a common experience but expressed in as many ways as there are people. Insulin perhaps, or electro-shock, or metrazol can in a measure bring the world back to focus. But if we others act as we did before, or colder because he has come from a 'crazy house', his vision will again blur.

And the things we do to help him hold the ground he has gained we shall find have made us the charming and understanding people we could be.

Sometimes I have a sense of being superior to those who are ill, and it's then I remind myself of my wife's grandmother. She was, I am told, a bitch of the darkest hide. She spoiled her boys and slandered their wives to their friends. When she grew old she was less careful and she began to treat her sons as she did their wives. The boys became concerned about her 'going crazy'. But one of the wives placed her arms akimbo and put them right: 'She ain't no crazier 'n she ever was—she just can't hide it any more.'

And there may be a day perhaps that neither can I.

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At the meeting of the faculty of a certain large university a proposal for a new administrative policy was being discussed. The debate was long and intense before a final vote of adoption was taken. As the professors filed out of the room an instructor continued the discussion with one of the older deans.

'Well,' observed the latter official, 'it may be a little hard on some people; but I feel sure that, in the long run, the new plan will be for the best interests of the institution.'

'Do you mean that it will be good for the students?' inquired the young man.

'No,' the dean replied, 'I mean it will be for the good of the whole institution.'

'Oh, you mean that it will benefit the faculty as well as the students?'

'No,' said the dean, a little annoyed, 'I don't mean *that;* I mean it will be a good thing for the institution itself.'

'Perhaps you mean the trustees then—or the Chancellor?'

'No, I mean the institution, the *institution!* Young man, don't you know what an institution is?'

FLOYD ALLFORT, *Institutional Behavior*

# THE AUTONOMOUS FIELD*

GUSTAF STRÖMBERG

[FOREWORD, BY A. KORZYBSKI: *To explain the importance of Dr. Strömberg's paper in a few words is difficult. To begin with, let me quote Professor Tracy Thomas, who is an important mathematician in the field of tensor analysis and differential invariance, differential geometry, and theory of relativity:*

*'The title which I have selected for this lecture is "The Concept of Invariance in Mathematics."[1] In making this selection I have been influenced by the naïve reason that this expresses rather accurately what I shall mainly talk about although I realize full well that such a title will carry no specific meaning to many of the non-mathematicians in the audience. A more appealing title would have been "The Theory of Relativity." As a matter of fact we shall be concerned in what follows with the theory of relativity, although we shall not limit ourselves to a consideration of this theory as commonly thought of, namely, as a theory of physics. Rather we shall be concerned with the underlying aspects of relativity conceived as a general principle in mathematics as well as physics. It will be my endeavor to present these ideas with the utmost simplicity, subject only to the requirements of accuracy of statement. You will see that the above-mentioned concept of invariance enters as a unifying principle in the developments.'*

*This quotation is given to show the modern trend in mathematics and in physics, to show the flexibility and interchangeability of different attitudes, which ultimately turn out to be practically equivalent, but taken from different points of view.*

*The newest achievements which ultimately culminated in the epoch-making liberation of atomic energy have not been due to mathematicians alone or physicists alone. It took the combined non-elementalistic efforts of mathematical physicists, mathematicians, astronomers, etc. The astronomers deal mostly with the very large, but like sub-atomic physicists, they deal also with the very small (sub-atomic interior of stars, etc.). Both disciplines do not follow aristotelian, euclidean, and newtonian types of orientation. The layman must be familiar at least with the non-aristotelian methodology to be able to guide himself intelligently in the fundamental reshaping of our knowledge of the universe, life included.*

*Dr. Strömberg is an astronomer born and educated in Sweden, and since 1917 has been at the Mt. Wilson Observatory,*

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[1] Faculty Research Lecture, University of California Press, Berkeley and Los Angeles, 1944. $.25.

*California. He is an outstanding specialist in stellar motion, statistics, and luminosity, astrophysics, etc., which means dealing with the mysteries of the world in the very large and the very small. It must be remembered that Einstein's work is also based on the study of the very large and the very small, with which the old orientations simply cannot deal.*

*The paper of Dr. Strömberg cannot be summarized simply; the original has to be read carefully many times. It gives an entirely new outlook on old problems. This may sound simple; in fact it is not, because it affects our habitual orientations. For milleniums, and since childhood we are accustomed to deal with the gross data of the macroscopic level. As to the very large, the reader should realize that in astronomy, due to enormous stellar distances, we may see a 'star' where really there is no star left; its light is perceived by us long after the 'star' may be 'dead,' and yet the light waves are still reaching us and our photographic cameras, and so our calculations must be inferential, as in the submicroscopic, or sub-atomic levels. An astronomer must be familiar with the physical working of this universe on both levels, of which we perceive only the gross averages registered by our senses (even if aided by instruments), and from which we unduly generalize.*

*So far as we know we human beings are a product of the universe; that is, a product of an interplay of the very large cosmic influences and the very small subatomic and submicroscopic energy patterns. So far as we know the two levels interact, which ultimately may result in you and me, the way we are, that interplay resulting in so-called 'mentality.'*

*Dr. Strömberg makes a bold attempt to reconcile the various levels by formulating a more general theory as a synthesis. It seems that this is the only reasonable way to do. In his 'The Autonomous Field' he summarizes previous papers on the subject. One of the main points is that we on the gross macroscopic level orient ourselves in terms of 'particles.' To the average man, even the electron is a sort of 'pebble.' Strömberg generalizes still further the* field physics *originated by the great Faraday (in contradistinction to* particle *physics). In such a formulation the endless possibilities in the electronic structure of the world and the electro-colloidal structure of life become less mysterious and so more easily handled. Strömberg boldly eliminates 'pebbles' (particles) and establishes our orientation about the world and ourselves on the basis of* autonomous fields of energy, *thus abolishing the old aristotelian limitations and blockages which were due to our old maps that do not correspond to the actual territory-world.*

*To quote Strömberg: 'Summarizing, we may say that force fields should not be regarded as being caused by any particles, but are* autonomous *entities built of* indivisible, coherent units *defining probabilities in space and time. The particles are nature's own evanescent* indicators *of the fine structure of preexisting fields and are associated with* emergence *of definite amounts of energy into the physical world of space and time. Atoms and matter in general are not aggregates of particles, but can best be described as energy patterns defining the amount, the vector properties, and the probable place of the emergent energy at a given time. Potential energy and probability of emergence of energy are almost synonymous concepts.*

*The theoretical problems, or the map-territory relations, are still not clear. Modern mathematical physics is based on new orientations where the 'matter' is less and less 'material' and becomes a problem*

*of relations, probabilities, degrees of freedom, the notion of fields, etc., and requires non-aristotelian infinite-valued notions, such as infinite-valued causality, infinite-valued determinism, etc. It is a natural evolution of our understanding the world. After all, our knowledge of the world is* our knowledge of the world, *and never* it. *As the mathematician Lewis Carroll puts it in* Alice in Wonderland, *'". . . the patriotic archbishop of Canterbury, found it advisable—" "Found* what? *said the Duck. "Found* it," *the Mouse replied rather crossly: "of course you know what 'it' means." "I know what 'it' means well enough, when I find a thing," said the Duck: "it's generally a frog, or a worm." '*

*The great astronomer and mathematician A. S. Eddington described the situation in the following words, 'The relativity theory of physics reduces everything to relations; that is to say, it is structure, not material, which counts. The structure cannot be built up without material; but the nature of the material is of no importance. . . . We cannot describe substance; we can only give a name to it. Any attempt to do more than give a name leads at once to an attribution of structure. But structure can be described to some extent; and when reduced to ultimate terms it appears to resolve itself into a complex of relations . . . A law of nature resolves itself into a constant relation . . . of the two world-conditions to which the different classes of observed quantities forming the two sides of the equation are traceable. Such a constant relation independent of measure-code is only to be expressed by a tensor equation.'*

*Great theoretical physicists such as Niels Bohr, Richard Tolman, Enrico Fermi, Lize Meitner, and many others, their work based on the theory of Einstein, finally succeeded in liberating atomic energy, all of which is due to the attempts to unify field theories. It seems that Dr. Strömberg succeeded in producing the most general* autonomous *field theory. Einstein himself writes about Strömberg's book,* The Soul of the Universe, *where these ideas were first presented.*

*'What especially impressed me was the successful attempt to isolate the essential facts from the bewildering array of discovered data and the presentation of them in such a way that the problem of the unity of our knowledge acquires a meaning. . . . Very few men could of their own knowledge present the material as clearly and concisely as he has succeeded in doing. . . . The attempt to unify our knowledge is in any case commendable at a time when almost every one forgets the whole in the investigation of the parts.'*

*In the book just mentioned Dr. Strömberg depends a great deal not only on the data of astronomy, astrophysics, sub-atomic physics, mathematical physics, etc., but also on the electro-colloidal data of biology, embryology, genetics, neurophysiology, and the general disciplines which deal with life and life manifestations, 'mind' included.*

*Students of general semantics should be forewarned that in his general theory, which seems thoroughly justified and very much up to date, Dr. Strömberg here and there is using anthropomorphic terms, and uses sometimes 'space'* and *'time' instead of 'space-time' in his struggles with the natural linguistic difficulties of the presentation of a new synthesis. Such minor linguistic discrepancies should be disregarded at present, as no pioneer can produce a perfect product at first. We cannot possibly understand life without understanding the fundamental interplays*

*of autonomous fields of energy patterns.*

*In ending this foreword, I can do no better than again quote Eddington: 'Rather against my better judgment I will try to give a rough impression of the theory. It would probably be wiser to nail up over the door of the new quantum theory a notice, "Structural alterations in progress—No admittance except on business," and particularly to warn the doorkeeper to keep out prying philosophers.'*]

## I

OF LATE OUR IDEAS about force fields have undergone a great change. The first important change was introduced by Einstein and was an essential part in the general theory of relativity. Even more radical changes in our ideas were found necessary as the result of the development of modern wave mechanics. Studies of the epistemological foundations of force fields in general have also thrown much light on the subject. One result of these studies has been that many scientists have become reconciled to the idea that fields may be nothing more than sets of generalized rules expressing space and time relations in mathematical or geometrical language. Although the generalization of the field concept has made it rather abstract, it is, nevertheless, admirably suited to explain, or rather to picture, a host of phenomena which were completely intractable on the basis of the older field concept. These new ideas have made it necessary to revise our classical concepts about the causal relationship between matter and its associated field. This revision, which entails a complete reversal of old ideas, has made it possible to apply the field concept to a number of biological phenomena, in particular to the progressive organization during embryonic development. With every new application, the field concept has grown in importance, it has become an *autonomous regulator of events,* and as a consequence we now begin to see not only the world of matter but also the world of life in a new perspective.

For a long time most people thought that the earth 'pulled down' all objects near its surface, and that electrically charged or magnetic bodies 'compelled' other bodies in their neighborhood to move in certain ways. Tracing the effects to the elementary particles of matter, scientists pictured them as attracting or repelling one another and in general to be the cause of accelerated motions. Great difficulties were encountered when attempts were made to explain the high concentration of electric charge on exceedingly small particles and to understand the behavior of these particles at very small distances. Faraday had called attention to the fact that the field itself had specific properties, and he was the originator of *field physics,* in contradistinction to *particle physics.* The relativity theory describes a field physics in which the field is *guiding* the path of light beams and bodies in space and time according to certain rules. An observable 'event' occurs when two such paths ('world lines') cross. A field is hence observed as a 'pattern of events,' and from such patterns the properties of guiding fields are derived. These properties can be described as due to 'field potentials,' which vary continuously from one point in space-time to another. As in classical mechanics a characteristic property of the field is the potential energy, which is regarded as a continuous function of the coördinates.

Both in the classical field theory and in the theory of relativity we must regard the particles as the cause of the field, provided we define a cause as an event that regularly precedes another in a physically

well defined manner. The particles are the 'cores' of the field, and any motion of these cores, or any change in them, is *later* manifested in the field properties. If the cores are neutralized, as, for instance, by the junction of positive and negative charges, the external field is progressively dissipated as radiation. The cores can hence be regarded as the 'sources' of the field, and a field without sources of some sort is regarded as unthinkable.

In the further development of the general theory of relativity the distinction between particles and their fields has tended to disappear. The possibility of a fusion of fields and particles is well described by Einstein and Infeld,[1] who have given an excellent description of the development of the field concept. In such a fusion, however, the field tends to become the sole governing agency, and then we find it difficult to understand how the particles have come into existence and why their high energy concentration does not cause them to explode on the slightest provocation. The authors write (pp. 257-258): 'We cannot build physics on the basis of the matter concept alone. . . . Could we not reject the concept of matter and build a pure field physics? . . . There would be no place, in our new physics, for both field and matter, field being the only reality. . . . Our ultimate problem would be to modify our field laws in such a way that they would not break down for regions in which the energy is enormously concentrated. . . . The decision, as to whether it is possible to carry it out, belongs to the future.' In the following we shall see how, in general terms, at least, such a program can be carried out; what is the origin of the particles and what role they play; and what are the general consequences of such a theory.

[1] *The Evolution of Physics*, Simon and Schuster, 1938.

## II

Our knowledge of matter and fields is mostly based on observations of large-scale phenomena, and our theories have been developed primarily to represent such phenomena. For instance, the idea of identifiable bodies moving in continuous paths independent of any observation is inherent in the classical theory. When attempts were made to apply this idea to processes involving individual particles and transfers of small amounts of energy, it was found that this simple picture of motion was not applicable. It appeared that both light-beams and moving electrons had a *particle aspect* and a *wave aspect,* the former associated with the mass and the energy involved, the latter describing the place and time of their appearance as well as certain directional and vibrational properties. The only satisfactory theory for the elementary processes was based on the ideas characteristic for the quantum theory, that energy always appears as indivisible units depending only upon an associated frequency, and that the place and time of its appearance can only be predicted with a certain degree of probability. Large-scale phenomena must therefore be assumed to be governed by statistical laws, but since in general we are dealing with a large number of particles, these laws are, for most practical purposes, rigorous.

Although the dual aspect of matter and of radiation is now familiar to all physicists, it has not been properly emphasized that this dualism cannot be reconciled either with our classical ideas about particles as the sources of force fields, or with the idea of fields as guiding particles in continuous motion, whatever be the sources of the field, or with that of a

simple fusion of particles and fields, as mentioned above. For instance, the diffraction of an electron beam reflected by a metallic crystal shows that the 'thing' reflected does not consist of indivisible particles and does not itself carry any energy as such. Instead, it must be regarded as a field having a *coherent structure* in space and time defining the *probability* that energy in observable form will appear at a given place and at a given time.[2] The diffraction can only be explained by assuming that the interfering parts of the wave system contain time elements originating in the *same* emission process, since these are of very short duration and cannot have mutually dependent phase relations. It is evidently incorrect to say that electrons are emitted as such, since they do not travel as identifiable objects through space at definite speeds. It should be noted that the whole physical space, in the usual method of representation, is needed to represent the probability structure of each of them, an idea familiar from other problems dealing with systems containing many electrons.

The probability pattern or field element associated with an individual emission process has a structure the meshes of which, as in the case of electro-magnetic radiation, have a size or wave length depending upon its velocity relative to the observer who measures the properties of the field. The field of an electron that appears to be almost stationary relative to the observer possibly has no observable meshes, only a structure of spherical or, for a spinning electron, axial symmetry. This electrostatic field should not be regarded as being caused by a 'little particle' at its center, imparting peculiar properties to the surrounding space by some mysterious mechanism nobody has ever been able to explain or understand. We may say that the field element defines, for different regions, the chance of observing an 'electron in action.' Since a stationary field has only one point where the probability is a maximum, we may picture the associated electron as *emerging*, if it emerges at all, close to but not necessarily at the geometrical center of the field. The probability structure associated with an individual 'electron emission' forms an *integral, coherent field unit* in which the sum total of probabilities is unity. In the present field theory the indivisibility of particles is regarded as a necessary consequence of the existence of integral field units defining units of probability structures.

A satisfactory feature of the present theory is that electrons which do nothing else than travel from one place to another in our mental pictures are eliminated as unobservables. Carrying this thought further we arrive at the conclusion that continuous motion is a mental abstraction that has no exact counterpart in the realm of physical measurements. For individual particles, motions are derived from *events* separated by *finite* space and time intervals. (This applies also to electron tracks in a Wilson cloud chamber, as shown in the last mentioned article.[2]) Applied to composite bodies, motion has statistical significance only. The product of the wave length of a field unit and its associated momentum, and also of the observed energy amount and the inverse value of the frequency, which itself can be regarded as a measure of duration of the emergence, all measured by a *particular* observer using 'tools' (atoms, light) built of similar field units, equals the quantum of action. Its finite size puts an upper limit to the accuracy of his

[2] A detailed description of this and other types of coherence is given in my article, 'Coherence in the Physical World,' *Philosophy of Science*, IX, 323, October, 1942.

measurements of position and velocity of the particle. This is the essence of the Principle of Uncertainty. The present theory gives quantitatively the same result, but it also tells us that the concept of motion should not be applied to the particles themselves, which are regarded as ephemeral, energy-carrying indicators of the field structure and not as identifiable bodies in continuous motion.

The same idea can be applied to ordinary radiation and gives a good understanding of the wave nature and particle nature of light. Also in this case the thing emitted consists of a system of integral, coherent structures, which can be described as wave motions. Each of these field units determines the probability that, at a given place and at a given time, a definite amount of energy and linear and angular momentum—properties which, if highly localized, we habitually regard as characteristic of a particle, in this case called a *photon*—will be absorbed. If no absorption occurs, the coherent structure associated with an individual emission process expands in an *ever widening surface* with a certain thickness defined by the length of the wave train. This is strikingly shown when we observe the interference of two beams of light from a distant star. The two interfering beams, although separated in space by many feet and travelling over enormous distances, contain time elements having their origin in the *same atom* and in the *same emission process*. This can be immediately deduced from the facts that the two beams have fixed phase relations and that the individual emission processes are of very short duration.[3] The probability structure due to such a process instantaneously disappears as a whole, whatever its size may be, when the full energy it controls is absorbed by an atom. If we regard such structures as nothing else than abstract mathematical probabilites, there is nothing strange in this, and a mathematical physicist may be completely satisfied with such a picture. But probability is a highly complex mathematical construct, and as such cannot travel from one place to another. It is natural to regard a probability as being 'carried' or 'caused' by an underlying, active entity of which we have only an incomplete knowledge. The instantaneous disappearance of an enormously extended probability structure suggests strongly that our ordinary idea about separation and motion is highly artificial and that a more 'natural' representation should be adopted. Such a representation is offered by the space-time manifold of the relativity theory. Expressed in space-time intervals the separation between a radiating atom and the field unit it emits remains zero, and the field unit does not expand at all. Since the interferometer is used to measure the position of something (loci of maximum probability, usually called wave crests) travelling with the speed of light, the length in space-time of the interferometer base is also zero.

The coherent field unit emitted in a radiation process can be regarded as a representative part of the electronic envelope of the emitting atom. Instead of saying that a photon has been emitted by one atom and hits another, we might say that an integral portion of the field structure of the emitting atom is temporarily 'in contact' with an atomic field,

[3] Cf. 'Coherence in the Physical World,' *loc. cit.* Dr. F. Zwicky has called my attention to the fact that in induced radiation several atoms can emit radiation with fixed phase relations. Since the primary impulse comes from a single atom, the origin of the coherence can even in this case be traced to a single emission process, the other atoms acting, so far as phase relations are concerned, as reflecting mirrors.

and an incorporation of the whole field unit with its coherent wave system can take place. This occurs especially when the two atoms have similar structures, so that a field unit from one atom fits into the structure of the other. Such a phenomenon we call absorption of radiant energy. It might be pointed out that the reason we think of radiation as travelling through space at a definite speed is associated with an intrinsic characteristic of the human consciousness, namely of 'experiencing the world' as time sections and not in its true aspect as a space-time manifold. If we think in terms of the latter the difficulty of understanding action at a distance can be eliminated. When we see a distant star, integral portions of its atoms of long ago are in contact with nerve ends in the retina of our eyes, and through nerve fibers with optic ganglia and with our brain, and a contact is established with our perceiving mind.

## III

It is clear from what we have just said that in the case of those fields, which we ordinarily describe as electron beams and radiation, it would be incorrect to say that the electrons or the photons are the 'cause' of the fields or that they are 'sources' defining the structure of the fields. This follows directly from the facts that the idea of moving particles leads to logical contradictions and that a *field determines the location of particles* and not vice versa. In the first decade after Bohr's theory of atomic structure was enunciated we used to think of electrons moving about the atomic nuclei in discrete orbits. It was later found that this simple model must be abandoned and should be replaced by another describing an *energy pattern* with sharply defined energy levels, and that the pattern itself could be described mathematically as a vibrating system. It cannot be too strongly emphasized that this vibrating system does not consist of moving particles or of a vibrating body, but is simply a convenient mathematical representation of a probability structure of the same type as that needed to characterize electron beams. The logical impossibility of regarding an electron beam as caused by moving particles applies equally well to the energy pattern around an atomic nucleus. Particles are descriptive terms applicable to observable *events* in space-time. These events are in general highly localized in space as well as in time and involve definite amounts of mass and energy, and it is for these reasons that in many cases we can describe them as ephemeral particles.

We can apply the same reasoning to atomic nuclei. The heavier nuclei are identifiable bodies, which in a certain sense can be 'labeled.' That an atomic nucleus can be regarded as a probability pattern or energy pattern, similar to the structures describing the electronic envelopes surrounding them, is clearly shown in the case of radioactive elements. We are therefore justified in stating that the properties of atomic nuclei are not due to any elementary particles residing or moving inside the nuclei, but to an inherent energy pattern the structure of which can to a certain extent be deduced from a study of certain events observable as a momentary emergence of definite amounts of energy and momentum. (In this case the idea of *emergence* of definite energy amounts, determined by the structure of a probability pattern, appears perfectly natural. The present theory implies a more general application of this idea.)

It is often stated that the probability patterns or wave systems described repre-

sent our knowledge of past events and can be used to predict future events with certain degrees of probability. The knowledge acquired gradually loses its value for prediction as time goes on, suddenly to become exact knowledge (that is, as exact as nature will permit) when a new observation is made. According to this theory the coherent wave systems are creations of our mind and have no more objective reality than a 'wave of optimism spreading over the country.' The wave systems of which we have spoken have definite space and time properties, however, which give them practically the same degree of truth value as that of most other statements concerning the physical world. It is easily seen that they are of exactly the same nature as the radio waves that often precede the wave of optimism. Radio-active phenomena show clearly that our picture of the structure of an atomic nucleus does not depend upon our knowledge or ignorance of previous emission processes or upon the accuracy with which such processes have been measured. Although the structure of atoms is a creation of the human mind, it is not an arbitrary creation. It has a truth value of a special type, and the truth it represents is, as always, incomplete. It represents a partial aspect of nature, mirrored in a mind of a particular type that is trained to think along certain lines. The full truth describing what goes on in the atomic nuclei, as in other physical processes, is not revealed by any observations of the type used in our laboratories and probably does not belong to the world of space and time with which physics is alone concerned. But more about this later.

Summarizing, we may say that force fields should not be regarded as being caused by any particles, but are *autonomous* entities built of *indivisible, coherent units* defining probabilities in space and time. The particles are nature's own evanescent *indicators* of the fine structure of preexisting fields and are associated with *emergence* of definite amounts of energy into the physical world of space and time. Atoms and matter in general are not aggregates of particles, but can best be described as energy patterns defining the amount, the vector properties, and the probable place of the emergent energy at a given time. Potential energy and probability of emergence of energy are almost synonymous concepts. (The problem of the origin of the energy-carrying indicators and of the field structures will be discussed later.)

A simple illustration may help us to get a clearer picture of the new ideas. We are used to think of an electric current in a wire as being due to electrons moving predominantly in one direction, the flow being the result of forces due to a potential difference. The characteristics of the field are assumed, at least to some extent, to be due to the inherent properties of the moving charges, which are considered the actual cause of the field. In the autonomous-field theory there are no moving electrons, and there are no visible sources of the field, visibility being regarded as a consequence of the properties of certain fields. The strength of an electric current is determined by the number of integral field units passing a cross section of the wire per unit of time. As in atoms, a potential difference is a measure of the number of the energy levels separating two energy states. Each field unit has its own extension of the same type as that we usually associate with a moving electron. These field elements carry no energy, only probabilities. To change the probability structure into observable properties, mass, in the form of 'squirts' of energy of fixed amounts,

must enter and annul the structure. Only then and thus can be demonstrated the existence of what we call an electric current and its field. (As in the case of light, we might say that the emergence of action entails the disappearance of the corresponding 'action cells.' This correspondence between energy and probability structure secures the conservation of energy, not for each instant, but during finite time intervals.)

It is easily seen that, in spite of their unfamiliarity, these ideas give in many ways a more satisfactory picture of an electric current than that involving moving particles and the fields directly attributed to them. Impedencies have the dimension of angular momenta. Resistance is measured by the number of action units irreversibly transferred to the atoms of the resistor. Inductance has the dimension of a moment of inertia and acts like a flywheel spinning around the conductor carrying the current. A capacity is represented by the number of field units compressed in the condenser plates and the dielectric by unit voltage. The idea of integral field units determining the emergence of definite units of energy, as well as the particle aspect and wave aspect of matter and electricity, are all explicitly expressed in the picture. The last two appear, not as usual as alternative aspects, never to be applied in conjunction, but as concomitants with a definite causal relationship. Since an electric current is here pictured as a coherent probability pattern, it follows that a more accurate form of Ohm's law should contain definite phase relations. We can therefore expect interference phenomena when an electric current is divided and enters at several points on the surface of a perfectly uniform conductor, *e.g.*, a metallic crystal at very low temperature.

## IV

The theory of the autonomy or primacy of all force fields is of fundamental importance in physics. Its most immediate importance, however, lies in the fact that it can be directly applied to certain fundamental problems in biology. A new factor is then introduced into this science, and many hitherto completely inexplicable phenomena appear in a new light. Even the age-old problem of the relationship between mind and matter is no longer insoluble and will ultimately take its appropriate place in a revitalized science.

If we ask what it is that determines the structure of an organism, the answer usually given is that in the germ cells of the animals and plants are certain chemical substances of a highly complex type, which determine the future development. Some of these substances (nucleo proteins) can be traced to the nuclei of the germ cells, and specifically to the chromosomes that undoubtedly carry many of the hereditary characteristics of the organism in a latent form. Some of these substances occur as indivisible units called genes, which are situated in the chromosomes and reproduced in cell division when the chromosomes are split and re-formed. The direct connection between the morphogenetic factors in the cells and the physical development of the organism is still unknown. Transplantation experiments made during the early gastrula stage show that organizing factors can be transferred from one part of an embryo to another. Of special interest in our study is the fact that certain organic tissues, even when killed, can induce, or rather initiate, cell differentiation. In short, it is stated that the origin of form and function in organisms can be traced to chemical substances, some of which

are of a relatively simple type and can be regarded as releasing dormant qualities in the cells of which living matter is built. Since in all atomic and molecular structures distance effects are supposed to be due to electric fields, the conclusion commonly drawn is that organization in the living world is due to such fields, and, what is more important, that the properties of the fields are ultimately determined by the configuration and motion of electrically charged particles arranged in stable structures.

As long as electric fields were regarded as the only effective cause of motion (gravitational fields being too weak to be of importance) and as long as electric fields were supposed to be 'anchored' in particles, this explanation was the only one that could be reconciled with our classical field concepts. It was soon realized, however, that ordinary physical fields were completely inadequate to explain the observed facts. A more general field concept was therefore introduced by several prominent biologists to explain organization. H. Spemann, A. Gurwitsch, P. Weis, De Beer, and Huxley[4] have all envisaged organizing fields in the developing embryos, although in most cases the ideas are descriptive rather than explanatory. Gurwitsch[5] is most explicit. He states that 'The place of the embryonal formative process is a field (in the usage of the physicists) the boundaries of which, in general, do not coincide with those of the embryo but surpass them. Embryogenesis, in other words, comes to pass inside of the field. . . . What is given to us as a living system would consist of the visible embryo (or egg, respectively) and a field. . . . The question is how the field itself evolves during the development of the embryo.'

Several years earlier Hans Driesch in his Gifford Lectures of 1907 and 1908 had developed similar ideas. In describing the fields he used the Aristotelian term 'entelechy' which he supposed to have nonphysical as well as physical properties. Driesch's theory was unacceptable to biologists, partly because it was 'tainted' with vitalism and partly because everybody was convinced that all fields were completely determined by atomic configurations.

The idea of an organizing field independent of atomic structures and extending beyond the boundaries of an embryo has recently been given strong support from the work of the Section of Neuro-Anatomy of the Yale Medical School. Burr and Northrop[6] proposed in 1935 the 'electro-dynamic theory of life.' This theory induced Burr, Lane and Nims to construct the 'vacuum-tube microvoltmeter,'[7] an instrument particularly suited for the study of the fine structure of the electric fields around animals and plants. By this method 'it has been possible to explore the electrical properties of a wide variety of living forms undisturbed by changes in resistance in the organism and without disturbing in any significant way the inherent electrical properties of the thing measured.' Many important facts have been established by this group of workers. It is sufficient here to state that the electric gradients are not chaotic, but exist in a well-defined pattern character-

[4] A summary of these field concepts is found in Spemann's excellent book: *Embryonic Development and Induction*, Chapter XV, Yale Univ. Press, 1938.

[5] 'Ueber den Begriff des embryonalen Feldes,' *Archiv für Entwicklungs Mechanik*, LI, 392, 414, 1922.

[6] *Quart. Rev. Biol.*, X, No. 3, 322-333, September, 1935.

[7] A summary of the work up to 1939 is given in *Proc. Nat. Acad. Sci.*, XXV, No. 6, 284-288, 1939.

istic of the species to which the animal belongs. In some cases it has been definitely shown that the pattern extends beyond the organism. At death the field disappears. Burr [8] writes that 'it is hard to escape the conclusion that the electrical pattern is primary and in some measure at least determines the morphological pattern.'

The fields studied are called *electric* because they can be detected by electrical measuring instruments and apparently can influence the motion of electrically charged molecules (ions). But these fields obviously must be of a type quite different from those associated with a combination of atoms of the chemical elements and called chemical substances. It is inconceivable that such substances, however complex they may be, can be responsible for the organization in living matter. A characteristic feature of living organisms is their stability of structural details, and, in animals in particular, the stability of the pattern of organization of parts with definite functions. This stability is directly shown by the unchanging forms in a long series of generations. Fluid chemical substances of the type with which we are dealing (e.g. proteins) are in general highly unstable. In the theory of the autonomous field, *stability is a characteristic of a field structure* and cannot be attributed to any particular configuration of particles. For instance, the fields which define the properties of atomic nuclei usually have a very high stability, formerly described as an immutability of chemical elements. We know now, from a study of radioactive phenomena and of artificial transmutation of chemical elements, that atomic nuclei with different degrees of instability exist. Similarly, the fields associated with organization have different degrees of stability, a fact manifested by the existence of mutations and the emergence of modified living forms. When it is considered that certain parts of living systems, at least in man and in the higher animals, must be regarded as carriers of or at least associated with a consciousness, as is the cortex of our brain, the idea of chemical substances being responsible for organization and function appears absurd to many people. Such substances furnish the necessary energy, however, and often exert a trigger effect.

For convenience I have used the term 'living fields' as a more general term than 'organizing fields' and 'embryonic fields.'[9] A simple case of an integral living field is offered by the transformation of a blastula into a gastrula. It is known that in this case the cells passively follow a field of force extending over the whole embryo, and that, when a part of the gastrula is transplanted into new surroundings, it may for a time continue to change its shape in the way it started to do. The latter phenomenon shows that living fields can be 'cut' without immediately losing their inherent properties. The problem of the reproduction of living fields by splitting has been discussed elsewhere.[10]

When we say that force fields are autonomous we mean that they are not caused by particles, like electrons and protons. It is obviously difficult to picture a field which can not be attributed to

[8] 'Field Properties of the Developing Frog's Egg,' *Proc. Nat. Acad. Sci.*, XXVII, No. 6, 280, 1941.

[9] A detailed description of the properties of such fields is given in my book, *The Soul of the Universe*, David McKay Company, Philadelphia, 1940. This book also describes in simple terms many of the ideas here mentioned and the scientific facts which support the same.

[10] 'The Physical and the Non-Physical World and their Intermediate Elements,' *Scientific Monthly*, LIV, 71, January, 1942.

something else. We naturally look for a cause of the field; something beyond the observable effects. This something' must be of a very profound nature, since it must in some way or other be associated with the ultimate origin of energy, matter, life, and mind. It is customary to use the term 'sources' as denoting the origin of force fields, and I have used the term 'living sources' to designate the sources of the living fields. Such sources of infinitesimal size exist in the germ cells, and, when the sources expand, each of them becomes an integral living field with a definite and effective structure. In my earlier publications I regarded the particles themselves as the sources of the atomic and the molecular fields. This is only partly correct, since the particles are momentary sources of energy, but they are not the cause of the field structures. Although the heavier particles of matter define the center of a field with high accuracy, the wave nature of these particles shows that they define, not the exact geometrical centers of fields, but regions with statistical properties. In searching for the cause of force fields we realize immediately that an important element is missing in the theory.

## V

The missing element is furnished by the introduction of the non-physical world. In the last mentioned article [10] I have given the reasons for the assumption of the existence of such a world. Our distinction between a physical and a non-physical world can be traced to the fact that we observe nature by different sense organs, the physical world being based on our organs of vision and of touch. The non-physical world is everywhere contiguous with the physical world of space and time, a notion familiar from modern geometry of many dimensions. But the new 'dimension' cannot have space properties, that is, it cannot be measured as intervals and structures, although incipient spatio-temporal, that is, physico-chemical, properties associated with vital functions can be determined at the points where it comes into contact with or emerges into the physical world of space and time. These contact points I have called *intermediate elements,* and they are the connecting links between the physical and the non-physical world as pictured in our type of consciousness. It is through these contact points that *energy, organization,* and *mind* temporarily enter into the world of space and time. In space-time they appear as physical fields built of elementary field units and observable as atoms and matter, plants and animals, nerve cells and integrated nerve systems with brains, respectively. In the autonomous-field theory the corpuscular nature of matter, the interference of light, the diffraction of particles, and the existence of structural elements and of an integrated organization in living organisms, are all regarded as evidence of different kinds of indivisible field units. The astonishingly small size of the intrinsically enormously complicated organizing factors in the germ cells is a natural consequence of the fact that they emerge from a world to which our ordinary space conceptions are not applicable.

In his book *The New Background of Science* (Macmillan, 1933), Sir James Jeans has expressed a very similar idea. He writes on page 259: 'We are thus led conjecturally to think of space and time as a sort of outer surface of nature, like the surface of a deep flowing stream. The events which affect our senses are like ripples on the surface of this stream, but their origins—the material objects—throw

roots deep down into the stream.' [11]

By a study of different types of living fields we can obtain some idea of the characteristics of the non-physical world. In the paper [10] mentioned I have studied the living fields responsible for the structure of optic ganglia in the retina, a study which gives us a clue to the origin of our sensation of colors. We shall here study another type of living fields that gives us information about another aspect of the non-physical world. The shape and structure of muscles from the standpoint of the present theory must be regarded as due to living fields. A muscle is a fluid structure, and it has no great rigidity when dead. Its changes in shape and in rigidity, both important characteristics of an autonomous field, are often associated with nerve impulses. The coherent and rhythmic contraction of the heart muscle, for instance, indicates the existence of a living field of unitary character. The pulse is determined by certain nodal nerve cells connected to the brain by the vagus nerve. The pulsation can be stimulated by certain chemicals like adrenaline. Excised portions of heart tissue can be kept alive, and the individual cells will pulsate under certain conditions. The nerve connections in the heart are necessary for a coherent pulsation of the heart as a whole and should therefore be regarded as a visual manifestation of the links in a more general field than those exhibited by the individual cells. Whatever conception we have of how the heart has been developed in the animal world, there can be no doubt that, at present, it performs a very essential function in certain animals, and that its motions and structure, linked as it is with the arteries, veins, and capillaries, are admirably adapted to perform this particular function. We may well say that the heart exhibits a purposeful action although we are not consciously aware of its purpose, which we have known for only a relatively short time. This observation indicates that one of the characteristics of the non-physical world is *purposeful activity.*

Another indication of the same thing is offered by those muscles the activities of which are associated with a *conscious will.* In a consistent materialistic school of thought there can be no place for a will, as an independent and effective agency. Adherents to this school therefore claim that will is an epiphenomenon that accompanies certain muscular activities, but not others. This, however, is contrary to our experience, since we are well aware of a will, or at least a desire to do something, without the will being accompanied by any appreciable muscular action. In other words, the will does not seem to accompany muscular activities, and it certainly does not follow them. Instead, all our experience tells us that it *precedes* them, and it can therefore well be regarded as the *cause* of action. According to the autonomous-field theory, the living field in our nervous system is modified and directed by something in our own consciousness which we call will, a process which does not by itself introduce any added energy into the muscle. Since will does not have any space properties, it belongs not to the physical but to the non-physical world, although it is in intimate association with the field structure. Again we find that in the non-physical world there is a *purpose,* which we perceive as will when it originates or

[11] W. F. G. Swann, in his book *The Architecture of the Universe* (MacMillan, 1934), describes on page 415 how two worlds could be connected by linkage of certain types. These linkages correspond to my 'intermediate elements.' In several of his publications, Dr. Swann has expressed ideas about the nature of particles which are somewhat similar to those expressed in this paper.

appears in our consciousness. Whether or not the will is free to act is a question that cannot be answered, because we cannot trace mental activities to their ultimate origin. The only thing we can say about its origin is that it cannot be located in material particles, although these provide the energy necessary for its physical manifestations.

These ideas are in complete harmony with those expressed recently by R. S. Lillie. He regards living systems as 'psychophysical,' that is, they are assumed to have both physical and psychological characteristics. I quote from one of his articles [12] entitled 'Living Systems and Non-Living Systems': 'In the adult animal (*e.g.* a man) the functioning of the whole organism as a biologically well adapted unity is demonstrably dependent in large part on psychological factors. It is true that these have their physiological correlates. Nevertheless, such general facts remind us, whenever we are inclined to forget, of the special character of the living organism as not merely a physical but a psychophysical system; and they show the scientific insufficiency of a purely physical conception of the living organism.' If we accept the idea that *all* organisms have psychological as well as physical properties, will may play a much more important part in the development of the living world than we have thought.[13] Although this will only reaches our consciousness in special cases when the proper nerve connections are present, we can still regard it as an active force, provided we accept the theory of the autonomy of force fields. But since we do not know to what degree, if any, our will is 'free,' we cannot answer the question whether the will, whose effects we perceive, is that of the individual or of a more general 'cosmic will.' Personally I believe it is a combination of both.

In conclusion we can say, that the theory of the autonomy of force fields leads to the result that such fields can be analyzed into integral, coherent units, and that this theory then makes it possible to understand many phenomena which the classical field theory is unable to explain. Principal among these phenomena are the wave nature and particle nature of matter and radiation and the small-scale and the large-scale organization in the living world. The theory has been shown to be a natural consequence of modern wave mechanics. It is also in harmony with recent discoveries in biology and gives us a new concept of life. It is directly opposed to the mechanical concepts which have until recently characterized natural science. It points directly to a world intimately connected with our own consciousness.

[12] *Philosophy of Science,* IX, 319-320, 1942. See also his latest article 'Vital Organization and the Psychic Factor,' *Philosophy of Science,* XI, 161, 1944. In these and previous articles Professor Lillie has emphatically expressed the opinion that the organization in the living world cannot be reconciled with ordinary physical laws. The autonomous-field theory developed from an attempt to explain the organization in the living world and at the same time to understand the origin of consciousness.

[13] Cf. *The Soul of the Universe,* p. 221, 222.

# MUSIC, THE DISCIPLINE OF SILENCE

STEWART W. HOLMES

## I

IT HAS BEEN SAID that 'silence is golden.' Probably this nugget of wisdom was first painfully dug up by some pithecanthropic Socrates who sat dismally on a stone in front of his cave while his skin-clad Xanthippe hurled bones at his head. But at some time or another a more positive value was seen in remaining silent, a value that caused men in the Himalayas and in the Pyrenees, in the hills of Palestine and in the deserts of Egypt, to live for long periods of time with their tongues still.

To speculate as to what exactly happened inside these practitioners of silence is not our purpose here. We may simply note that the benefits must have been in some measure equivalent to the sacrifices involved in living so un-average a life. What we do wish to note here is a modern call to silence, the reasons for it, and a relatively ready and easy way to practise it.

This call is formulated in a non-aristotelian system of evaluation which we call 'general semantics.' 'Semantics' comes from the Greek word signifying 'meaning'; Korzybski uses this term to indicate the whole system of organismal processes by which we react meaningfully to our surroundings. The aim of general semantics is to help people train themselves in sane reactions, train themselves to accept the reality principle, as some psychiatrists put it. To accomplish this, we must come as close as possible to seeing things as they are rather than as we may wish to see them. 'Our actual lives,' Korzybski writes, 'are lived entirely on the objective levels, including the unspeakable "feelings," "emotions," etc., the verbal levels being only *auxiliary*, and effective only if they are translated back into first order un-speakable effects, such as an object, an action, a "feeling," etc., all on the silent and un-speakable objective levels. In all cases of which I know at present, where the retraining of our *semantic reactions* has had beneficial effects, the results were obtained when this "silence on the objective levels" has been attained, which affects all our psycho-logical reactions and regulates them to the benefit of the organism and of his survival adaptation.' [1]

Of all God's children, only human beings go crazy in impressive numbers. Likewise, only human beings use such symbols as words. Misuse of words would seem to be a factor in the conditions producing many types of unsanity. And indeed, it is a prominent factor if we understand by the term 'misuse of words' the inability to make our world of ideas and our world of actual things correspond in a workable map-territory arrangement. The trouble is that we can affect our surroundings relatively little; we have to learn to adjust ourselves to them. But we can shape our verbal world, the maps inside our heads, in any way we wish.

[1] Korzybski, Alfred, *Science and Sanity, An Introduction to Non-Aristotelian Systems and General Semantics*. Lancaster, Pa., 1933. p. 35.

If we are not careful, we wishfully convince ourselves that 'everybody's out of step but Jim,' that our personal maps are always right. Then we are likely to come to grief. One way to keep from coming to such grief is to train ourselves to recognize the thing as a thing and the word as a word and to remember that the twain never meet and become one.

Many young wives have reason to train their husbands thus. For example, the husband sees an unfamiliar dish on the table. 'What's that?' 'Bread pudding. There's a war on, you know.' 'Oh,' says he, reacting to his meaning of the word *bread pudding*, 'I don't like bread pudding.' And then the young lady, being a good psychologist, maneuvers her husband into trying *her* bread pudding, into reacting to the thing (which is what will nourish him) rather than to the map-memory inside his head called *bread pudding* (which could never build an ounce of tissue).

This homely illustration of the necessity of reacting *wordlessly* to the *thing*, of continually adjusting the map inside our heads to fit the dynamic, ever-changing territory outside, may serve to point to the heart of what Korzybski means by 'retraining our semantic reactions.' The only fair way for our guinea pig to eat his bride's bread pudding is for him to put aside his old prejudices against such a dish, to react to it on the 'objective level.' Such a healthy reaction will become automatic when he makes automatic the realization that the word is *not* the thing and that, of the two, the *thing* is the more important. Except metaphorically, we cannot eat our words.

Such differentiation of these two levels of abstraction will lead in turn to differentiation of other levels of abstraction: thing, impression, word, and then descriptions and inferences in ever more generalized terms. Thus, whether we deal with the disposition of a bread pudding or of Bessarabia, we shall be adjusting our private maps to the public territories as closely as our acquaintance with things and facts permit.

To achieve this retraining, Korzybski postulates as most important 'silence on the objective level.' To effect this primary discipline he uses a three-dimensional diagram of the orders of abstraction which he and his students look at and manipulate *without speaking*. Training in silence cannot be gained through the use of words. Lectures and books are verbal. We can be told about 'silence' and we can talk about it—as we are doing at the moment—but if we think this trains us to be silent before a thing, we delude ourselves. No more can we learn to play the piano by reading a book of theory.

Yet most people, especially those who are learned in the academic, verbal world, find it difficult to react to anything in silence, to react without forming words audibly *or inaudibly*. The three-dimensional diagram referred to above (called by its author 'the structural differential' and by the irreverent, 'the semantic rosary') is of tremendous value in learning to differentiate between the various orders of abstraction and in wordlessly reminding ourselves of the correct thing-word relationship. But the writer has found another practice to be as helpful as it is pleasant in achieving the habit of reacting wordlessly to an event. This is simply —listening to music.

## II

I say 'simply.' Perhaps it is not so simple, in one's home, at least. Very few people seem to be able to listen to music with undivided attention. They must be eating or drinking or talking or reading or playing cards or doing any one of a

hundred things at the same time. This is not what is meant here by 'listening to music.' Nor is *outward* quiet alone sufficient, if inwardly you are reviewing the day's activities or shaping fine phrases with which to impress your co-listener when the selection ends. Nor even is an interpretative play of the imagination allowed if you conjure storm clouds out of one phrase, a quiet meadow with a faun chasing a nymph out of the next. For training in silence, no transposition of sounds into pjcture *or* words is allowed while the music is being played.

The realization must be understood and confirmed that whatever you say the music is, it is *not*. If you substitute a word for a musical phrase, you are experiencing your word rather than the composer's music.

To express what is meant positively rather than negatively is difficult, since—and this is the important point—the value of the experience is its very wordlessness. The type of music which I have found best adapted both to my pleasure and to the 'discipline of silence' is chamber music. This music is almost purely structural. 'Bodiless,' Spengler called it. It is related closely to mathematics, also a bodiless form of symbol. It is significant that the fugal style was worked out at the same time that Leibnitz and Newton were discovering the infinitesimal calculus and the four point movement was evolved when Euler was formulating functional analysis. Spengler, in his historical analysis of the arts of form, speaks of chamber music as 'our deepest and most intimate kind of music. . . . Certain it is that the violin is the noblest of all instruments that the Faustian soul has imagined and trained for the expression of its last secrets, and certain it is, too, that it is in string quartets and violin sonatas that it has experienced its most transcendent and most holy moments of full illumination. Here, in *chamber music, Western art as a whole reaches its highest point.*' [2]

Such music is alone amongst all the arts in that it affords a communication at once to our highest 'cortical' centers by reason of its high degree of abstraction and also to our 'sub-cortical' centers, since it is a direct, objective experience of sounds which imitate nothing in the world of nature. A possible exception to my generalization is modern art, for which Oliver Bloodstein claims something similar. 'In a painting we can be made to "visualize" structure, to experience it apart from a great many incidental concomitants, and to experience it on subcortical levels. . . . By re-translating our higher order verbal abstractions of relations and order into simplified but direct manifestations which can be visualized and felt, modern art affords immediate, sub-cortical experience of essential structure.' [3]

To divorce everything you see in a modern painting—bits of glass, eyes, profiles, umbrellas, serpentine lines—from all recollections of other pictured or actual bits of glass, eyes, etc., seen elsewhere is to many people extremely difficult. That amount of effort is practically nonexistent when you listen to a Beethoven string quartet whose sounds resemble neither the meowing of a cat nor the squeak of a door nor the bark of a dog nor anything else one has ever heard outside the world of music.

## III

It must be admitted that this advantage is also the chief reason for the lack of popularity of chamber music. If people

[2] Spengler, Oswald, *The Decline of the West*, Alfred Knopf, New York, 1932. I, 231.

[3] Oliver Bloodstein, 'General Semantics and Modern Art,' *ETC.*, I, 16 (August, 1943).

insist on making verbal noises about the music they hear, or insist on conjuring up pictures, they will find music which discourages such practices to be disagreeable and annoying. A little persistence will cure this if the subject genuinely wishes a semantic re-training. And without this latter condition, there is no hope anyway.

'Immediate experience,' writes Korzybski, 'always unspeakable, is strictly connected with the lower centres. In the translation of experience into higher order abstractions and language, the unspeakable character of experience is lost, and a new neurological process is needed to re-translate these higher order abstractions into new lower order abstractions, and thus fully and successfully to complete the nervous cycle. . . . If the translation is made into the language of lower centres, namely, into "intuitions", "feelings", "visualizations", the higher abstractions gain the character of experience.'[4] In chamber music this cycle of translation is rendered unnecessary. The experience itself is at the same time on the un-speakable level and also on that of the higher order abstractions. The music charms us by the mutual relationships of its sounds; we are made feelingly, intuitively, aware of complex structure at the same time (and partly, at least, because) we are experiencing our 'most transcendent and most holy moments of full illumination.' In the world of the mystical experience, no saint's words, no picture or statue of the world's greatest artists can possibly convey the intense feeling of holy at-oneness with archetypal Humanity in its most Christ-like state that the third movement, *Molto adagio*, of Beethoven's fifteenth *Quartet in A Minor*, affords the listener who will be *silent*. His nervous system is affected directly by the order embodied in these bodiless vibrations whose only meaning is in that very order.

Music, then, I call the Discipline of Silence because listening intently and wordlessly to chamber music first, avoids the use of words as in lectures and books; second, discourages the use of words by the extreme immateriality of the subject; third, makes it easy to check the rise of words or other symbols to consciousness because it consists of vibrations that have only a remote relationship with objects in our ordinary experience; fourth, offers the almost unique opportunity to avoid the cycle of translation and re-translation from lower to higher to lower order abstractions by presenting us with a dynamic symbol of the universal order which is itself an experience of order and structure. We are affected in a way extremely beneficial to our organism, since our impression of order and of the primacy of the thing level has directly the character of experience.

Last but not least, the pill is sugar-coated. To enjoy the art of our 'culture' at its best while our nervous system is being recanalized sounds almost like too much of a psychological bargain to be true. The test will be in each reader's own experiences.

[4] Quoted in Bloodstein, *op. cit.*

# THE SEMANTICS OF QUILLER-COUCH

ARTHUR MINTON *

SIR ARTHUR QUILLER-COUCH'S 'On Jargon' has long been a set piece in college English teaching. It figures prominently in texts for basic courses.[1] In hundreds of classrooms the Cambridge professor's lecture has been used to explain the pitfalls of jargon. Yet much of this pedagogical staple—its influence is incalculable—is based on assumptions and notions that can only lead students away from sound semantic attitudes.

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[1] 'On Jargon' is found virtually intact or in substantial part in such widely used texts as Scott and Zeitlin's *College Readings in English Prose*, Third Edition, 1935; Frederick and Ward's *Reading for Writing*, Second Edition, Seventh Printing, 1944; Carver and Geyer's *Communicating Experience*, 1941; and Loomis and Clark's *Modern English Readings*, Fourth Edition, 1942. In others obeisance is done by reference, perhaps with brief quotation, as in Kierzek's *The Practice of Composition*, Form B, Revised Edition, 1943 (' "Jargon" is here used in the sense made famous by Sir Arthur Quiller-Couch in his famous essay "On Jargon".'—p. 234); Watt, Cargill, and Charvat's *New Highways in College Composition*, Fourth Printing, 1945; Euwema's *A Year's Work in Composition*, 1940; Shaw's *A Complete Course in Freshman English*, Revised Edition, 1945; and Johnson's *Basic Writing*, 1937.

It will be recalled that in his celebrated lecture Quiller-Couch announces that he is to speak of 'a kind of writing which, from a superficial likeness, commonly passes for prose in these days, and by lazy folk is commonly written for prose, yet actually is not prose at all.' A few lines later he refers to 'that infirmity of speech . . . which . . . I take leave to introduce to you as prose which is not prose and under its real name of Jargon.' This

The presence of 'On Jargon' in texts is only one indication of its prestige; students may be directed to it in other ways—as by the teacher's recommendation. Thus in Jefferson, Goldman, and Glenn's *A Progressive Study of English Composition*, 1941, we are told, 'In an essay, "On Jargon," which every person who writes might read with profit at least once a year, the distinguished English scholar, critic, and novelist, Sir Arthur Quiller-Couch, gives several very simple but very effective rules for avoiding waste of words and for making one's prose truly good prose, clear and capable of carrying the emphasis one desires.' (pp. 153-154).

That 'On Jargon' is a classic which some teachers praise rather than read, is suggested in the following from Sanders, Jordan, Limpus, and Magoon's *Unified English Composition*, 1942: 'Sir Arthur Quiller-Couch, in *The Art of Writing*, labeled this kind of language jargon because many of the terms included in it are derived from the terminology of particular professions or occupations, but, when extended to general use, have lost their significance.' (p. 157). This point is not found in 'On Jargon.'

vision of prose which is not prose is expanded by the contrast between 'this sham prose' and 'honest prose.'

The mature reader must bridle at this proclamation of the doctrine of the 'real name.' Jargon, unless it be in verse, is a kind of prose. When Quiller-Couch says it is not prose, he means, of course, that it is not *good* prose; that is, with the gesture of the elect he brushes aside usage in preference to a private definition. And implied in the 'real name' doctrine is the principle that thinking about words is the equivalent of thinking about things—provided, of course, that the thinker (like Quiller-Couch) chooses 'real names' to think about. In short, the professor nudges his audience toward the verbalism which will be confirmed by other educational influences and which has produced such harmful results in every branch of life.

As his exposition unfolds it becomes clear that he is not merely indulging in whimsy. The theme of verbal absolutism is first developed in the tiresome witticisms about the word *case*. (No radio comedian has ever punned more flatly.) Quiller-Couch says, '. . . . as a rule Jargon is by no means accurate'—and purports to illustrate:

> Thus the clerk of a Board of Guardians will minute that—'In the case of John Jenkins deceased the coffin provided was of the usual character.' Now this is not accurate. 'In the case of John Jenkins deceased,' for whom a coffin was supplied, it is wholly superfluous to tell us that he is deceased. But actually John Jenkins never had more than one case, and that was the coffin. The clerk says he had two,—a coffin in a case; but I suspect the clerk to be mistaken, and I am sure he errs in telling us that the coffin was of the usual character; for coffins have no character, usual or unusual.

We pause here to ask why the Jenkins sentence is said to be not accurate. Though tautological, it is accurate. But we do not pause long. We are instead arrested by the new and even more perverse manifestation of the 'real name' *mystique*—the implications that *case* can mean only 'box' and that *character* can mean only 'individuality' (or 'moral firmness'?). Whimsical or not (and evidence shortly appears that they are not), these pretensions can serve but to obscure to students the crucial facts that (1) words different in origin and present sense may have the same sound and spelling;[2] (2) figurative extension is one of the main resources for the development of language; (3) the 'meaning' of a word is determined largely by the contexts in which it is used. If coffins can 'have no character, usual or unusual,' then neither can jargon have the 'vices' which Quiller-Couch ascribes to it; nor can prose be 'honest,' in that author's expression. Thus this lamentable Jenkins example not only contains a misstatement about 'inaccuracy' but diverts readers from fundamental semantic facts. And inaccuracy goes unillustrated after all—except as it may be found in Quiller-Couch's own statements.

The *case-coffin* joke must have laid the lecturer's audience in the aisles. Improving on the old vaudeville principle that if it's funny once it's funnier twice, he returns to *case* again and again—*e.g.*:

> [Illustration] 'All those tears which inundated Lord Hugh Cecil's head were dry in the case of Mr. Harold Cox.' Poor Mr. Cox! [says Quiller-Couch] left gasping in his aquarium!

[2] The one *case* comes from L. *casus*, *'a falling,' 'event,'* etc.; the other from L. *capsa*, 'box' or 'case of books.'

Then *instances* gets similar treatment: [Illustration] 'In most instances the players were below their form.' [Quiller-Couch] But what were they playing at? Instances?

Please, professor!

In one of its more satisfactory paragraphs, 'On Jargon' well says that 'the two main vices of Jargon' are 'that it uses circumlocution rather than short straight speech' and 'that it habitually chooses vague woolly abstract nouns rather than concrete ones.' (Why only nouns?)[3] But after this description comes a strange prescription that logically follows on the assumption of the 'real name':

> . . . Whenever in your reading you come across one of these words, ***case, instance, character, nature, condition, persuasion, degree,*** whenever in writing your pen betrays you to one or another of them—pull yourself up and take thought. If it be 'case' (I choose it as Jargon's dearest child—'in Heaven yclept Metonymy'[4]) turn to the dictionary, if you will, and seek out what meaning can be derived from *casus,* its Latin ancestor, then try how, with a little trouble, you can extricate yourself from that case. The odds are you will feel like a butterfly who has discarded his chrysalis.

Following this suggestion, in the *New English Dictionary* we find the Latin source of *case* (in the sense of 'instance,' etc.) to be *'cāsu-s, cassu-s,* fall, chance, occurrence, case.' From *Cassell's Latin Dictionary* we learn that *casus* may mean a falling, fall, end of a season, grammatical case, occasion, opportunity, accident, event, occurrence, disaster, mishap, destruction, ruin, etc. But what in all this will serve as a *caveat* against the jargon use of *case?* Cassell's definition (and the *NED's*) will rather justify that use.

Students can best be steered away from the hoary fallacy that etymological learning is the primary way to a precise use of words. Suppose that, employing Quiller-Couch's semantic method, one tries to find out what economics 'really' deals with. He will learn that *economics* is from the Greek meaning 'the art of household management.' He will then easily perceive that most of the English-speaking world is mad, since it applies the word to a science that includes such matters as national resources, markets, and international finance. Similar insight will come from a study of *rival* (L. *rivalis,* 'pertaining to a brook'), *engine* (L. *ingenium,* 'that which is born in a man'), *nerve* (L. *nervus,* 'sinew'), *explode* (L. *explodo,* 'to drive off an actor by clapping the hands')—and innumerable other words. And presumably (by Quiller-Couch's lights) an even deeper understanding of present English can be obtained by a study of meanings in the preclassical Indo-European.

Obviously, the meanings of word roots in a source language do not necessarily illuminate their meanings in later use. Dictionary study is a start in the study of meanings, but ultimately the reader or bearer will ask, 'What did the user of the words intend them to symbolize? What are their referents in this context? What

[3] Later Quiller-Couch recommends 'the concrete term' and 'definite words.'

[4] The jargon use of *case* would involve metonymy only if there were, etymologically, but one *case,* with the sense of 'box.' Did the learned man not know this? Had he followed his own advice and looked up *casus?* If so, did he withhold what he found—for the sake of his joke—being confident that his students would pay no attention to his counsel? These are some of the questions raised by this interesting passage—questions that must be answered by the writer of the definitive work on our author.

are their connotations?'

Quiller-Couch's venture into *ur*-semantics contains other splendors that need be only mentioned here. The absolution of its linguistic outlook is reflected (or vice versa?) in two touches of political ethnology. To parallel his 'prose that is not prose' the lecturer tells a distasteful anecdote about 'a coloured preacher' whose preaching could not be called preaching. In another sprightly allusion he patronises the babu—a gesture that no longer strikes us as happy. Again, it is misleading to designate as jargon 'verbs such as "obsess," "recrudesce," "envisage," "adumbrate".' These words, all of which are established in the *NED*, have their acceptable uses today. Quiller-Couch's passing swipe at them seems to imply that they are what Louis Kronenberger has called 'verbal junk jewelry.' It is understandable that students respond to 'On Jargon' with a kind of tolerant puzzlement. This is peculiar, schoolmarmish stuff, they seem to feel, but after all, it's our business to take it in.

Such is the character of a work which has been held up to generations of college students as a model of learning and wit. Apparently admired by most teachers as fervently as ever, the relic continues to implant—rather, to confirm—the notion that words have a 'real meaning' to be sought in etymology. And on that conception may be built the sand-castles of verbalism.

It is time that the vagaries of Quiller-Couch be relegated to a museum of professional oddities. The perpetuation of 'On Jargon' among the implements of teaching is evidence that education, from top to bottom, needs a strong injection of general semantics. That this eventuality will come soon one is not too hopeful. For as Anatole France said, *'Les savants ne sont pas curieux.'*

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'It's a queer thing, but in Buchenwald we didn't waste much time hating the SS. They beat us, they butchered us, they exploited us; but our hatred (and our love, too) was reserved for the comrades inside. It was the stool-pigeons and the informers and the men who had let us down whom we really hated. The SS was an act of God. You didn't hate it, you just accepted it as the established order; or, if you were clever, you worked on it and corrupted it to make life bearable.

'I can see that you still wonder why one troubled to survive. Of course, a lot didn't. . . . But a concentration camp is just another form of human existence. After the first shock one accepts it, just as one accepts the front line or the slum. And if you decide to survive and adapt yourself, you live just as fully in Buchenwald as anywhere else; though the chances of death are a good deal higher.' *The New Republic*, July 30, 1945.

# READING AND UNDERSTANDING

H. R. HUSE *

THERE are two kinds of reading, mechanical reading, which is the conversion of written symbols into sounds or into inner speech, and, on the other hand, reading which implies, besides the possibility of this conversion, an understanding of what the sounds symbolize. We can all pronounce, for instance, such phrases as 'the champak odors fail,' but to understand exactly what the sounds mean, or whether they mean anything, is another matter.

Our schools teach mechanical reading almost exclusively, and we are usually satisfied with that attainment. We have a natural tendency to assume that what is pronounced correctly is understood. Thus we take reading ability for granted, confuse sound and sense, and think of the majority of our population as significantly literate.

A number of investigators, however, have revealed the disquieting limitations of mechanical reading. In one case it was found that a pupil who had pronounced the word 'evolution' correctly thought that this articulation stood for a political principle opposed by the Democrats. Another student who was reading *Julius Caesar* thought that Cassius was a fundamentalist and wanted the old religion restored, and that the first Triumvirate was composed of Shakespeare, Milton, and Browning.[1]

But investigations of this kind are hardly required. To gain an idea of what is read and of the capacities involved, it is only necessary to look at the news stands in bus stations and in drug stores. In many cases all reading of unbroken material is too difficult, a fact which accounts for the great vogue among adults as well as children of 'comics,' picture magazines, and tabloids. For fifty years almost no publishing errors have been made through underestimating the reading ability of the public. On the other hand such magazines as the *Atlantic Monthly* or the *Nation* have barely survived. The editor of one of the popular pulp magazines explained the situation to a new member of his staff. 'Always remember,' he said, 'that we are getting out a magazine for the "Great American Moron." '[2]

* Professor of Romance Languages at the University of North Carolina; author of the pioneer work in semantics, *The Illiteracy of the Literate* (New York, 1933). His article is reprinted by permission from *Studies in Philology*, XLII, 708-715 (July, 1945).

[1] T. W. H. Irion, *An Experimental Study of Comprehension in Reading* (Columbia University, 1927), p. 2.

[2] Alvin Barclay in the *New Republic*, LX (1929), 42.

When we consider the magazines for the genteel masses, the situation appears little better. We can judge the literacy of their readers by the advertisements which appear in them, since these advertisements offer almost an exact measure of interpreting capacity. No literature is tested as rigorously as advertising. To be successful, advertising copy must reflect accurately the critical sense or gullibility of those to whom it is addressed. To say that these advertisements display hypocrisy, lying, insincerity, and stupidity is to say only what every one with critical sense or a faint notion of honesty and candor already knows. After a look at the ads in some of the popular women's magazines, one can question seriously whether it is worth while to teach women how to read. The same can be said of some magazines for men. Our schools turn out their products equipped with a deceptive literacy like lambs ready for the slaughter.

From this viewpoint the effect of universal education has been merely to facilitate the operations of tricksters and mob-masters. Formerly these men were obliged to follow the fairs and to work on those within reach of their voices. Nowadays the cleverest of the Barnums have graduated into publicity and advertising, and can work effectively at long range.

When the present school traditions originated, the scientific method, advertising, and even printing were future developments. In the Middle Ages, for reading the Bible or even Aristotle, faith largely sufficed. Democracy and commercialism are new novelties in the old history of education. Once there was scarcely a better rule for interpreting spoken or written words than that implied in the scholastic maxim: 'The master affirms it, therefore it is so.' But that day has passed. It is now not the learned doctor who speaks *ex cathedra*, but rather the politician or publicity expert, neither of whom needs even to delude himself while deluding others. Our courses of study have had many recent additions; the schools have been as restless as a patient seriously ill; it might restore comfort to attend to the main business of teaching the first of the three R's.

Before any one can read critically, he should know what words are, how they are used, and what they stand for. He should know something about the origin of language and of its great emotive, magical, and suggestive uses.

The work of Ogden and Richards, Korzybski, Stuart Chase, Hayakawa, and many others has brought attention to the subject of semantics. English departments in many institutions have seen the relative unimportance of rhetoric as formerly taught. In our daily lives we are confronted not so much with the subtleties of literary appreciation as with crude deception which elementary instruction in reading should make difficult. But only a beginning has been made.

Perhaps the most widespread delusion about language is that it is used primarily to communicate ideas or thought. In a considerable amount of speech there is no communication whatever. Children talk to themselves by the hour. We speak to pets, not at all unconscious that they cannot understand what we are saying. We use language as inner speech in our thinking while deliberately refraining from communication and even from articulation. Oaths uttered when we hurt ourselves and the curious monologues of drunkards are manifestations of language independent of communication and of all social life. The most usual function of language is the expression of emotions and of attitudes that will lead to practical results. When a wife tells her hus-

band, for instatnce, that the cat wants to go out or that the room is getting cold, she is really not conveying information primarily, but expressing an implied command. Likewise when we talk about the weather we are not revealing our thought so much as expressing a gregarious attitude.

The emotive use of language is perhaps the oldest use, and is certainly the most constant in daily life. Small children frequently use words in a kind of cooing, as a cat purrs, as an expression of contentment. In adult speech, exclamatory utterances go back to the origins of language. Under the stress of fear or pain, inarticulate cries and groans reappear in all of us. Likewise many slang expressions are used in a vague fashion to express gusto, joy, disgust, or humor. They can be used over and over on almost any occasion. Oaths are not real invocations or reflections on parentage, but serve for emotional relief. Some of our commonest terms express emotional attitudes: *rebels* (for Confederates), *scabs, brats*. There are 'fighting words' and words that arouse enthusiasm. Some produce mutual good will and collective harmony: *coöperation, brotherhood*. In the language of politeness, a whole range of attitudes may be expressed. The same person may be Charles, Charley, Shorty, Doctor, or Professor Jones (to cite only a few possibilities), according to subjective feeling, relationship, or attitude. Malinowski, in his study of primitive society, has shown how language is used mainly to enter into sociable relations.

Another source of confusion in language is due to the figurative use of words. The commonest and most mischievous figures of speech are euphemism, hyperbole, and metaphor.

Euphemism is the substitution of a vague or softened phrase to avoid the pronunciation of a more specific term. By this device 'fornication' becomes 'misconduct,' or a 'fault,' or a 'lapse.' Workmen are 'laid off,' girls get 'in trouble.' To avoid such a sinister invocation as 'Inflation,' politicians have used the term 'reflation' for exactly the same thing. 'Selectee' is used for 'conscript,' 'our way of life' for 'finance capitalism,' and so on. In this way we can qualify acts or things by our attitude toward them, and so great is the power of the word that we will fight for a thing designated by one term which we would spurn if designated by another.

Hyperbole is characteristic of youthful speech. When words intended to convey an emotion or an attitude become tame from long use, we seek a more impressive term. If 'fine' or 'heavenly' or 'gorgeous' should lack emotional emphasis, we can add an adverb: 'superlatively fine,' 'ravishingly gorgeous.' Advertisers of an automobile started with a 'six,' which became in a later model a 'super-six,' and still later a 'super super-six.' Ultimately it was called a 'terraplane.' Salesmen and others thumb the dictionary for more impressive words to transmute reality.

But of all figures of speech, the commonest is metaphor. In a sentence such as the following, cited by Jespersen, nearly every word has been given a metaphorical usage: 'He *came* to *look upon* the low *ebb* of morals as an *outcome* of bad *taste*.' While the use of metaphor, especially of *'dead* metaphors,' is necessary and inevitable, the confusion in thought and in speech caused by its abuse is almost incalculable. Our metaphors are often divorced from fact and may be used, like a false premise in a syllogism, to make any statement plausible. They come between us and the reality.

The use of word magic has declined greatly with the development of rationalism and modern science. But our language

still shows many traces of it. All human societies, according to Lorimer, exhibit a series of quasi-symbols, terms which have largely lost their symbolic character and have become in themselves objects of love, dread, or loyalty. People are easily impressed by the properties of words, not as symbols, but as independent entities. Children delight in the sound and magic effect of such terms as Tom-Tit-Tot or Rumpelstiltskin, and accept with charming naïveté the taboos on 'naughty' words. In 'eenie, meenie, minie, mo,' in a 'hey and a ho, and a he, nonny no,' this nonsymbolic use of words occurs. 'There are depths of language that have no meaning and never have had.'

The Greenlanders divide a person into a soul, a body, and a name.[3] The Arabs will lie down to let a curse fly over them.[4] A king or a pope changes his name when he assumes his new and sacred character. When the Romans were obliged to mention a disastrous event, they were careful to say *'Absit omen.'*[5] There are prohibitions everywhere against using sacred names too lightly. We often disguise them by saying 'drat' (God rot), 'gosh,' 'Gad,' 'Great Scott,' 'Golly,' 'Bedad,' etc.

History and legend abound in examples of the magic power of words. Orpheus quieted the storm by his song. The Devil has always shuddered at the name of Jesus or Mary. Pareto mentions a conjuration for stopping a snake. The charms for controlling the winds and elements are endless. The Romans avoided the difficulty of not knowing the name of the god to address in certain circumstances by means of a formula, as, for example, *Jupiter Optime Maxime, sive quo alio nomine te appelari volueris.*[6]

Traces of the old magic are found in euphemism. A superstitious fear of a word causes a loved one 'to expire,' 'to breathe his last,' 'to join the silent company,' 'to fall asleep,' or perhaps 'to be lost at sea.' Common words such as 'mother' and 'home,' not to mention such divinities as Morality and Justice, have sanctity as articulations. Legal fictions and scientific terms form the basis of much modern word magic. As the phrase is used by salesmen, 'modern science' is the beginning of a formula that can sell anything from corsets to toothpicks. Terms like 'halitosis' or 'pyorrhea' frighten like the bogey man.

The greatest 'power of the word,' however, is not to be found in word magic, but rather in the suggestive use of language. Speech used in this way may accomplish miracles. Under hypnotism, which is produced mainly by verbal means, a mere suggestion changes water into wine. Nearly all that a person does or thinks and the culture pattern to which he unconsciously conforms is the result of suggestion. Advertisers depend largely upon suggestion: they prefer to deal with women, who are more easily influenced, and flatter them regularly with such subtle suggestions as 'Women know values.'

The possibilities for fraud, disorder, mass madness, and hysteria that the suggestive resources of language permit can hardly be exaggerated. Diarrhoea may be produced by calomel, fear, and hypnosis. Hunger, thirst, pain, anesthesia, constipation, and other psychophysical processes are influenced by words. Coué used to cure toothache by a formula: 'Every day in every way we are getting better and

[3] Otto Jespersen, *Mankind, Nation and Individual from a Linguistic Point of View* (Oslo, 1926), p. 170.

[4] C. K. Ogden and I. A. Richards, *The Meaning of Meaning* (New York: Harcourt, Brace and Co., 1923), p. 68.

[5] *Ibid.*, p. 52.

[6] V. Pareto, *The Mind and Society* (New York: Harcourt, Brace & Co., 1935), p. 147.

better.' Advertisers create new maladies by suggesting them. Diseases have their fashions and are sometimes made epidemic by suggestion. Neurasthenia has been variously known as acedia, sloth, ennui, and romantic melancholy. It has been treated by a low calory diet and by *suralimentation* (overfeeding). Cases of hysteria due to suggestion fill the pages of history. Armies in every age have suffered from sudden panics. In finance also, panics occur, due to suggestion. St. George appeared plainly on the walls of Jerusalem to all the Crusaders, suggested doubtless by an individual who had the original hallucination. Suicide compacts are far from rare owing to the suggestion of one individual and the susceptibility of the others. The Crusades were the result of suggestion, and for two hundred years the madness lasted. In America several outbreaks of mass madness have been recorded. The revivals and camp meetings of the early part of the last century offer curious examples of verbal suggestion and mass psycho-pathology.[1]

Credulity and susceptibility to suggestion are not a psychic abnormality, but the rule. Suggested aberrations take many forms: anarchism, anti-Semitism, race prejudice, religious and anti-religious fanaticism, and so on. The principal agencies of suggestion are the press, advertisements, and popular gatherings.

As Forel states, 'The opinions of a normal human being are merely a colorless impression of the teaching of his parents, his party, his country, and the daily press. His mentality is a stereotype of these opinions. In a pious country, he is pious, in a free-thinking country, a free-thinker.' The crowd of the uneducated never sees through the tricks of the mob-masters, who understand instinctively the art of exploiting them. The central problem of reading is the development of habits which may act in some measure as defences.

The work of Korzybski would probably rank as one of the great accomplishments of the century if only for its exposition of the process of abstracting and the dangers of abstractionism. A brief article can barely hint at the importance of this subject.

Abstractions are verbal devices that exist only in our minds, not in the outer world where our experience is confined to individual things. There is a fundamental difference between the abstraction, Beauty, for instance, and a particular statue that can be pointed at. Everywhere people make this confusion between the inner (intensional) and the outer (extensional) worlds. We talk about Liberty, Truth, Justice, Freedom, Morality, as we might talk about a monument that can be touched, photographed, and measured. When we speak about abstractions as we do about particular things we live in a delusional world, like the insane who hear voices and see things that aren't there.

The ancient Greeks had their gods, some of whom the early Christians converted into saints. We have adopted them also, but changed them into articulations, into abstractions. We are told by the high priests of abstractionism what Morality demands, and the sacrifices owed to Miss Freedom.

The academic as well as the clerical mind is peculiarly obsessed with abstractions. Most teachers are insulated from first-hand experience: their dealings are largely with words. But everywhere the danger of abstractionism is present. Politicians punctuate their discourse with Truth, Righteousness, Service, and Ideals, and compete with each other in this piety.

[1] For these and other details, see L. Satow, *Hypnotism and Suggestion* (New York, Dodd, Mead and Co., 1923).

When Justice demands that some one should be executed, we might learn that this mystic being is only verbal, that it is rather the opinion of the judge and jury that the accused should be killed. Likewise when France or Bolivia is planning some action, it should not be too difficult to understand that these terms indicate, not some fabulous creation, like the Devil, but the few Frenchmen or Bolivians (the rulers, or ruling class) who for the moment control the policy of those countries.

This brief review of the nature of language, of the emotive and figurative uses of words, of word magic, of suggestion, and of abstractionism indicates a few aspects of language that our schools and colleges almost utterly neglect. It is possible to receive a doctor's degree in language and literature with only a slight knowledge of these fields. What is involved is the only kind of literacy that can do much toward accomplishing the democratic purpose.

The contrast between teaching the use of mathematical symbols and the use of linguistic symbols is striking. Through constant practice and solving problems, pupils learn that two plus three are *not* six, and would be shocked to see such a statement. In the use of words, a similar incongruity causes no reaction at all: the evidence is abundant in the commercial and political propaganda which is addressed to the products of our schools, and which serves as a measure of interpreting capacity.

If entire dependence had to be placed on innate intelligence, no important change could be expected. But a *habit* of critical reading can be developed in almost all students by constant practice in solving verbal problems, in somewhat the same way that practice is given in solving mathematical problems. Words, phrases, and statements should be translated into terms of motive, authority, probability, the laws of evidence, and *meaning* as expressed by examples or by the student's own words. Without this ability to translate, the public is the inevitable victim of commercial, political, and literary fraud, and, since language is so important in thinking, the mental life of the people may be corrupted. In spite of present successes, we cannot have an entire faith in the survival value of a nation of semantic illiterates.

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The belief or unconscious conviction that all propositions are of the subject-predicate form—in other words, that every fact consists in something having some quality—has rendered most philosophers incapable of giving any account of the world of science and daily life.

BERTRAND RUSSELL, *Our Knowledge of the External World*

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All modern philosophy hinges round the difficulty of describing the world in terms of subject and predicate, substance and quality, particular and universal. The result always does violence to that immediate experience which we express in our actions, our hopes, our sympathies, our purposes, and which we enjoy in spite of our lack of phrases for its verbal analysis.

A. N. WHITEHEAD, *Process and Reality*

# THE HAYEK YOU SAY!

## *Two Reviews of The Road to Serfdom**

## *BACK TO GRANDFATHER*

STUART CHASE

I

PROFESSOR HAYEK is an Austrian who went to England with other German and Austrian scholar exiles in the early 1930's. They were welcomed by the London School of Economics, and began an evangelical revival of the doctrine of free competition as formulated a century and a half ago by Adam Smith. For a dozen years books and articles have been flowing from the energetic pens of Professors Hayek, von Mises, and others of the so-called Vienna School. Until the publication of *The Road to Serfdom* last fall, nobody paid much attention except the academic economists, who have tossed the ball of dialectic to and fro in their learned journals.

All of us who took Economics 1 know Professor Hayek's story. The basic assumption is that economic affairs are best taken care of if individuals are left free to pursue their own personal gain. Neither the state nor private monopolies should interfere. This assumption depends in turn upon an optimistic view of the nature of the universe, where a 'natural order' brings about a benign system of economic harmonies in the absence of outside regulation. A complete separation of economic from political power is cardinal to the doctrine, an 'essential guaranty of freedom.'

This metaphysic can be traced back to various European economists of the seventeenth and eighteenth centuries, and finds its culmination in the work of Cobden and Bright, in early nineteenth-century Britain. Professor Hayek, indeed, traces it back to the ancient Greeks, while carefully avoiding Plato—whose *Republic*, of course, is one of the most ferocious exhibits in totalitarian planning ever put on

* EDITOR'S NOTE: Dr. Hayek's book is by now a dead issue. But the points of view from which Mr. Stuart Chase and Dr. Lawrence K. Frank reviewed *The Road to Serfdom*, as Korzybski pointed out in his foreword to 'Integrative Levels in Biology' by Alex B. Novikoff (*ETC.*, II, 203-204), are not. Mr. Chase's review is reprinted from *The Nation*, May 19, 1945. Dr. Frank's review, which forms an excellent supplement to his article, 'What is Social Order?' (*ETC.*, II, 29-37), is reprinted from *The Saturday Review of Literature*, May 12, 1945. The editors of *ETC.* are grateful to the editors of *The Nation* and *The Saturday Review of Literature* and to the authors for permission to reprint these reviews.

parchment.

An invisible hand, the story goes, will transform individual self-seeking into the greatest good for the greatest number. The free play of goods and services in an all-inclusive market will automatically reward individuals according to their deserts, while insuring social progress. The structure of harmonies, however, is in delicate balance. Any conscious or thoughtful planning for the general welfare will destroy its automaticity and fruitfulness. A pious obedience to the dictates of the natural order is mandatory. Professor Hayek is rigorous on this point. He says: 'Thus the more we try to provide full security by interfering with the market system, the greater the insecurity becomes.' And again:

> It was men's submission to the impersonal forces of the market that in the past has made possible the growth of civilization . . . it is by thus submitting that we are every day helping to build something that is greater than any one of us can fully comprehend. . . . They are mistaken when . . . they argue that we must learn to master the forces of society in the same manner in which we have learned to master the forces of nature. This is the path to totalitarianism.

Thus men must resist any impulse to tinker with their destiny, and bow their heads before the mystery of the market as good Christians bow their heads before the mystery of God. But the world has taken a sad turn since the Golden Age when Cobden and Bright repealed the Corn Laws. The forces of evil secured a foothold about 1870, especially in Germany, and ever since, owing to the follies of collectivism, government interference, monopoly, and economic planning, we have been falling deeper into sin. In ringing terms our author bids us return to the ways, not of our fathers, but of our grandfathers. Back, he cries, before it is too late. 'We have little right,' he says, 'to feel . . . superior to our grandfathers; and we should never forget that it is we, the twentieth century, and not they, who have made a mess of things.' We cannot perhaps recreate the England of 1840, but 'we have the opportunity to realize its ideals.'

One reason for the current success of *The Road to Serfdom* is clear from these quotations. Here is the true faith we have lost, the fundamentalist doctrine that those of us beyond fifty were brought up on. When we are confused by the trend of events, frightened by the New Deal, appalled at our war economy with its astronomical debts and taxes, worried about Russia, uncertain about the British and their unorthodox White Papers—in short, when the world of 1945 is too much for us—we long to return to the old simple faiths.

Professor Hayek thus answers a deep spiritual need in American men of affairs. He also vigorously attacks 'Socialists,' 'Communists,' 'planners,' 'bureaucrats,' and thus warms the hearts of the executives again. At this particular point in history, while profit margins are widened by war orders, and before the post-war world falls down on us, the Vienna School revival might easily go like Technocracy in 1933—which also, in its day, filled a spiritual need. Technocracy, however, jumped us a century forward, while Vienna jumps us a century back. Middle-of-the-roaders like your reviewer get a little dizzy as the band-wagons rush fore and aft.

## II

Our author's logic is as simple as his theology. He subscribes to the two-valued

school; the philosophy of either-or. An event is either black or white; there is no room for shades of gray. Yet in the real world of space and time nearly every event is a shade of gray, with absolutes almost unknown.

In two-valued logic we must choose between 'planning' and 'freedom,' between complete collectivism and complete laissez faire; there is no middle ground. Once the virus of planning is admitted, we are assured, it will spread like typhus until the whole country is riddled with the disease. By the same token, free competition cannot tolerate any restrictions whatsover, whether by government, labor unions, private monopolies, or pressure groups. We must have the pure, unadulterated article if we are to live as free men.

At this point practical men are forced to part company with two-valued logic. It bears no relation to the world they have to deal with day by day. In the real world the honest observer notes that Sweden and New Zealand, among others, have planned certain areas of their economic life for decades; yet nowhere does one find more upstanding individuals or more devotion to civil liberties.

An even more dramatic case is that of the United States at this very moment. The federal government, in a total war economy, has taken over the direction of the bulk of our activities, is buying about 60 per cent of everything produced, while the 'law' of supply and demand has been laid away for the duration. On our author's logic we should be serfs, yet the Bill of Rights, with its freedoms of speech, press, assembly, religion, habeas corpus, stands foursquare. Listen any day to Colonel McCormick thunder in the *Tribune*. Freedom of civilians to choose jobs and goods has been only slightly restricted. Freedom of movement is unaffected—provided you can find a place in the train to stand. We are not quite so free as we shall be when the war is over; yet I should not advise Professor Hayek to begin calling Americans serfs in, say, Times Square.

For Germany he may be quite correct in holding that total war has reduced citizens to a kind of serfdom. For the United States, Britain, Canada, Australia, New Zealand, South Africa, he is wildly incorrect. This is the kind of pickle two-valued logic gets one into. Another pickle is the identification of 'collectivism' with 'socialism' with 'communism' with 'planning' with 'Hitler.' They are all synonymous in this logic. So one can reduce it to syllogisms like the following:

Hitler plans
Lord Keynes plans
Therefore Lord Keynes equals Hitler.

Yet it would be just as fair to say:
Hitler uses tanks
General Eisenhower uses tanks
Therefore General Eisenhower equals Hitler.

At one place in the book, I even found myself identified with Hitler, a logical simplification which I resent.

A curious corollary of our author's logic is to deny the possibility of an abundance economy. 'Whoever talks about potential plenty is either dishonest or does not know what he is talking about. . . . It is this false hope as much as anything which drives us along the road to planning.' Frankly, this shocks me. Doesn't the Professor ever look at current statistics? His book was published in 1944. In that year, according to all reliable sources, the gross national output of the United States was close to 200 billion dollars' worth of goods and services, or more than twice the prosperity peak of 1929. The

'potential plenty' that 'planners' used to talk about was around $100 billion. Is it dishonest to point out that the war has actually doubled the estimates of those crackpots and dreamers? Is it dishonest to believe that what America has done once it can do again—with tractors instead of tanks coming off the assembly line?

## III

Two-valued logic can be readily exorcised by asking the concrete question: *Planning for what?* If one is planning just for the sake of 'planning' one is a proper target for Professor Hayek's blunderbuss. This breed of planners, however, is practically extinct in America. There is no special virtue in planning for economic goods which free competition can adequately supply. Check this with any member of the National Planning Association, from Beardsley Ruml down. A man with a head on his shoulders calls for plans *when something specific is breaking loose or threatens to break loose.*

When Model T's began to choke the roads in the early 1920's, for example, somebody had to plan the traffic before the hospitals overflowed. When I hear the word 'planning' in a vacuum, I usually think of the traffic cop at Twelfth and Chain. If readers of *The Road to Serfdom* did the same, they would not find much left to read. In 200 pages of high-order abstractions there is hardly a single concrete case.

The book does contain one glaring inconsistency and one useful warning. The inconsistency occurs when Professor Hayek, by some strange lapse, holds out a kind of olive branch to the planners in the form of social security and guaranteed minimums of food and shelter for the population. We had best forget this lapse, for it interferes with the logical perfection of the rest of the treatise. In fact, it removes the whole underpinning from the argument. One cannot both deny and admit the welfare state.

The warning, which every 'planner' should paste under the glass top of his desk, is this: If citizens surrender all responsibility for economic action to a centralized government, as in Germany and Russia, citizens will lose their civil liberties, their freedoms to choose jobs and goods. For Americans this would indeed be a kind of serfdom. For Russians, however, having been in Russia, I am not so sure. Russians do not look at you in the street the way a serf should look. They do not fight like serfs. Perhaps Russians just have a different set of habits about civil liberties.

In a democracy in the power age it is manifest that two general areas must be consciously directed: First, the government must plan to keep the market economy afloat. Otherwise monopolies, cartels, trade unions, farm blocs will torpedo it from one side, and catastrophic depressions torpedo it from the other. Second, the government, or the foundations, or the cooperatives, or somebody, has got to provide those economic goods and services which citizens must have and which business men are not interested in providing. They include the public-school system, public health and nutrition, social security, the national defense, the highways, conservation, housing for the lower income groups, municipal utilities, and so on.

In addition, the end of the war will require plans for such special tasks as these: to rehabilitate and reemploy fifteen million veterans; to transfer twenty million war workers to peace-time jobs; to dispatch great stores of food and medicines abroad; to dispose fairly of some 2,000 government war plants and some $100 billion of government inventories; to

carry out agreements like those made at Dumbarton Oaks, Bretton Woods, and other international conferences, in the interests of world peace.

Can any of the matters listed above be settled by higgling in the market? Not one. They must be consciously directed or they will not be settled at all.

## IV

Finally, let us look at Professor Hayek's account of the decline of free competition. He admits that all the trends are running in the opposite direction, but he says the planners are responsible — personally. They began their hatchet work in Germany, we are told, and now have spread all over the planet. This is flatly contradictory to the historical record in America, where laissez faire was undermined first by the monopolies and trusts of the business men, second by the collective bargaining of the unions, third by agricultural blocs, and last by the state—forced into the picture when the economy literally broke down. The oil trust was formed not long after the Civil War, the A. F. of L. was formed in the 1890's, the farm bloc in the 1920's while powerful government action came only with the great depression of the 1930's.

The virgin free market was not violated by planners and collectivists in Germany or anywhere else but by the Standard Oil Company, the United States Steel Corporation, the Big Five Chicago Packers, the A. F. of L., the Farm Bureau Federation, the protective tariff, the Aluminum Company of America, I. G. Farben, Imperial Chemical Industries, and the scores of other powerful monopolies, here and abroad, which for one reason or another —some of them pretty good reasons— could no longer tolerate the unimpeded 'law' of supply and demand.

If all the planners, from Alexander Hamilton to Lord Keynes, had never written a line, the market would be in much the same state as we find it today, and the prospect of returning to the era of Jeremy Bentham would be equally bleak. We have no more warrant to go back to it than to go back to the medical practice of bleeding for all diseases.

The Golden Age of 1840—when little girls worked a fourteen-hour day underground in British coal mines—has been displaced chiefly by the gentlemen who are now acclaiming Professor Hayek's book. A return to free competition, in all its two-valued absolutism, which he celebrates, would break up most of the organized industry of the United States, every labor union, every farm organization concerned with economic action.

There is no road back to grandfather's bosom. We have to deal with the world as it is. The only way is forward. We are out on the darkling plain in this fateful year of 1945. We have lost a great leader, and an ominous journey lies before us. There is no escape to an economic fairyland where invisible hands put us to bed and rock us to sleep. We have only our naked intelligence to save us from looming disaster. We have got to stand on our own feet and act and dare—yes, and plan! Or mankind will be overwhelmed.

If enough Americans escape into Professor Hayek's wonderland to become a solid pressure group against all intelligent programs to solve specific post-war problems, then our task becomes far more difficult. Furthermore, those areas of private enterprise which 'planners' honestly desire to keep open may be swept away. As the count of the unemployed goes up from ten to fifteen to twenty million, under a policy of drift and deadlock, the man on horseback will surely have his chance. Then we shall really taste serfdom.

# THE RISING STOCK OF DR. HAYEK

LAWRENCE K. FRANK

## I

A BOOK unobtrusively published last fall by a university press has skyrocketed to national prominence in recent weeks. It is *The Road to Serfdom,* by Friedrich A. Hayek, an Austrian economist who almost overnight has been hailed a major prophet by a section of American business and professional men. He has become the spokesman for the economic beliefs which flourished up to 1929, but since then have not had a wide or sympathetic audience. Various organizations, including the National Association of Manufacturers, are recommending Dr. Hayek's book. Last month *The Reader's Digest* published a somewhat sharpened condensation; and the Book-of-the-Month Club is now publishing more than a million reprints for bulk and single distribution. *Fortune Magazine* has praised Dr. Hayek and assigned the latest Beveridge volume to him for review. In the meantime, Dr. Hayek has been making a whirlwind (and some say triumphal) lecture tour of the United States. Seldom have an economist and a non-fiction book reached such popularity in so short a time.

But it is not surprising that Dr. Hayek should be so acclaimed and given such a 'build-up.' He has provided a vigorous restatement of what many believe and want to hear. His book appeals to those who oppose any and all efforts at economic planning and to a large public who do not understand what his ideas mean or where they come from.

Dr. Hayek tells us that national economic planning in Italy and Germany led directly to totalitarianism and in Russia it was the chief instrument of state regimentation. With these examples as evidence, he warns us that the current efforts and proposals for national economic planning in England and in the United States will, if we persist, lead to the same fate, of a totalitarian government, the loss of human freedom, and the cessation of all progress—hence the title, *The Road to Serfdom.*

Dr. Hayek assumes that what has appeared in one country or national group, with its cultural traditions and its predominant character-structure can be naively applied or transferred to people with other cultural traditions and a different way of life and character-structure.

What Dr. Hayek and his admirers say seems plausible until we remember that the national economic planning and the totalitarian governments they cite occurred among peoples who had no traditions of self-government and political freedom, and who never accepted the conception of individuality and the kind of social ethics which are characteristic of England and the United States. In each of the countries described by Dr. Hayek, the individual has historically been an instrument of the State, to be ordered, forbidden, and used ruthlessly by the State and the governing group for its own purposes. In all the dictator countries people have been reared to accept authority, both secular and theological, and to submit to regulation of their lives, with and without economic planning, as in the dictator countries which Dr. Hayek does not men-

tion, *e.g.*, Portugal, Spain, and Japan. National economic planning in the dictator countries, like all the other forms of state control, continued this well-established practice of domination and exploitation of people, technologies and resource for the State or those controlling the State. Those policies and the coercion and regimentation of all activities were accepted by the people generally (a few dissenting) as an expression of their ideals and traditions and as necessary to the way of life they believed in.

Proposals for economic planning and governmental action in England and in the United States arise from a different set of traditions and express other beliefs and intent. In both of these countries there is a well-established tradition of the place and rights of the individual as paramount over the government, which is conceived not as an authoritarian power but as an agency for the common good, to be invoked when people need help, protection, and assistance.

## II

To understand this concept of planning and the legislation which attempts to regulate, control, and forbid various practices in England and the United States, it is necessary to recall the social-economic-political context and problems to which planning and legislation are addressed.

When the guilds were succeeded by the enterprising producer-businessmen toward the end of the eighteenth and beginning of the nineteenth centuries, little or none of the guild tradition of responsibility (very inadequate according to present-day social standards) survived the passing of the handicraftsman-petty trader. Thus, Thomas, Richard, and Henry, who started up factories and business activities as independent private enterprises in the hope of profits, refused to recognize or to accept any responsibility for the consequences of their activities for their employees and families, their customers, or social order. They had no traditions of responsibility and they claimed immunity from any ethical-moral or value considerations except those of pecuniary profit and loss. These early enterprisers and their successors justified their stand by an appeal to economic theories and economic laws (*e.g.*, the iron law of wages so firmly upheld by Ricardo) and rationalized what they did by attributing everything to the 'forces of competition.'

Social legislation designed to regulate and forbid what businessmen were doing was later enacted in response to repeated and prolonged protests and after interminable delays, in order to curb these activities that threatened various groups. Beginning with the Interstate Commerce Commission and the Sherman Anti-Trust Act about 1890, there has been a series of such acts and commissions, each provoked by the necessity of curbing or regulating the irresponsible activities of industry and business and professional practices, as, for example, the Securities and Exchange Commission after 1929. In England the record of social legislation is similar but usually it has come two or three decades ahead of the United States, as Mrs. Lynd has shown in her recent volume, *England in the Eighteen Eighties*.

Legislation has sought to regulate employment, to forbid hazardous and dangerous occupations, to provide compensation and medical care of injured employees, and more recently to provide social security against unemployment and old age, for those who, in the face of an urban, money economy, are helpless to meet those exigencies unaided.

## III

Every such step has been bitterly opposed, by fair means and foul, by those whose practices or negligence made such legislation necessary. Much of the legislation has failed of its purpose because of opposition, evasion, or sabotage, but such failures do not diminish the meaning and significance of the intent and of the methods employed. Social legislation is the effort, on the part of people themselves, by constitutional means, to obtain needed protection and assistance in those areas or fields where private enterprise, individual and corporate, has refused to accept responsibility for the human and social consequences of its decisions and its activities.

Looked at in this perspective, it would appear that the proposals for economic planning in England and the United States are expressions of our ethos, the ethical-moral traditions of a people who for many years have regarded their government as their instrumentality for whatever action was necessary to ward off the threats to their life, liberty, and pursuit of happiness and to protect the freedom they cherish. This is quite a different tradition and setting from the people who have long been committed to Statism and accepted authoritarian governments to which businessmen have been largely subservient, if not partners in regimenting the lives of people.

The foregoing is not offered as a plea for, or a defense of, social legislation and economic planning. Those who have closely observed what was attempted in 1917-1918 by the War Industries Board and other war boards, again in the middle 1930's with the National Recovery Administration, and now in the present war with the many war agencies and controls, must agree that national economic planning, even for war, is a prodigious task. Our efforts have not been too successful, partly because of the difficulties of the task, but also because of passive or active resistance and especially the calculated sabotage by irresponsible individuals and groups.

Anyone who reflects upon the situation will realize that proposals for national economic planning are not only in our tradition but are encouraging signs that the English and American people believe that something can be done through popular, free government to protect themselves against the threats of unemployment, the fear of want and disaster, by planning how to utilize our resources, our technology, and our man- and woman-power for the general welfare. The belief that many of our businessmen have not yet learned to be responsible will be confirmed by the very acclaim given to Dr. Hayek's polemic against English and American planners and his reiterated statements that we must trust our lives and our national welfare to the 'forces of competition.'

It is not my purpose to defend national economic planning against which a more devastating criticism may be directed, namely, that *national* economic planning may fail completely to recognize the necessity for *world* economic planning if we are to achieve any world order. National economic planning may be a vehicle (and in the minds of some planners it is so regarded) for a self-sufficient nationalism or autarchy which even in a free society can be a massive obstacle to world order. Moreover, *national* economic planning may, like other nationalistic groups, fail to recognize the necessity for redirecting business enterprise and technology to the larger world tasks for which they are now ready, but blocked by diplomacy, military policy, and similar

nationalistic survivals.

As Mrs. Langer's article in the March *Fortune*, 'Make Your Own World,' so cogently explains, business men must assume even greater responsibilities. We cannot today tolerate the 'irrational forces of competition' to continue the international anarchy that periodically erupts into war as another expression, not of deliberate intent by businessmen (peace to the writers of the 1920's!) but of irresponsibility for the consequences of their competitive trading, and business and financial activities.

Dr. Hayek's book merits study not merely as a controversial piece to be defended or attacked according to the sympathies and interests of the debaters. Whatever uses the book may be put to, there is no question about Dr. Hayek's sincerity and personal integrity. His volume is important because it raises the central question of our times—the nature of social order and the place of the individual in that order. It attempts to answer that question by using concepts and a way of thinking that are not *merely obsolete* but, in the new climate of opinion today, are almost archaic.

## IV

If we will look back in our intellectual history, we will see how the Newtonian conception of a system maintained in equilibrium by the operation of large-scale forces, acting at a distance, captured the imagination in the seventeenth and eighteenth centuries. It provided a concept which could be used, both as a polemic against the existing order and as a pattern for new theories and arrangements which would supersede the older scheme of things.

Thus, when the political theorists began to attack absolute power and divine right and to demand political freedom, they invoked the doctrine of natural law and proposed a scheme of government on the Newtonian model. In place of royal and ecclesiastical authority, they asserted that a government of political rights and duties should be established, as a self-regulating, equilibrating system. This was the model which early in the eighteenth century was adopted by the English. The full expression of the Newtonian concept appears in our own Constitution with its system of checks and balances and three separate branches of government (which England gave up after a brief trial, as President Lowell pointed out).

Later, toward the end of the eighteenth century, when new inventions and expanding opportunities for trade made the historically developed parliamentary regulations and guild rules no longer desirable because they hampered production and commerce, economic theorists likewise invoked the Newtonian model. They conceived of economic events as arising from an economic system, operating through economic forces which controlled all economic life and so kept the system in equilibrium.

Thus, in 1776, Adam Smith, wishing to displace the established economic order and to inaugurate the new arrangements, pleaded in *The Wealth of Nations* for freedom of enterprise to exploit the new machinery and to enlarge foreign trade, unhampered by parliamentary regulations and guild prescriptions. He denounced these survivals of the older order as interfering with economic progress and invoked the guidance of the 'unseen hand,' because he was persuaded that there existed an economic system, with economic forces which would automatically regulate all activities, maintain equilibrium, and bring social benefits from selfish strivings.

Succeeding economists accepted this

Newtonian model and skilfully developed a coherent body of theory explaining everything that happened as the result of these economic forces and economic laws. They ignored the few dissenting voices or explained away any reservations or contrary beliefs, even when expressed by such leaders as Jeremy Bentham or John Stuart Mill, as Mrs. Lynd has pointed out.

In the same tradition, then, sociologists accepted the Newtonian conception and explained social life and social order as a natural system or mechanism operated by large-scale social forces. In the hands of Herbert Spencer these ideas dominated social theory and provided an explanation and a justification for whatever existed.

## V

The nineteenth century was committed to the Newtonian conception and viewed social order as a part of nature, a system or mechanism, existing somewhere between the earth and sky, operated by large forces, political, economic, and social, which governed all social events. Thus, everything that happened, for good or evil, was natural and inevitable and beyond man's reach or even understanding. Indeed, it was impious and destructive to attempt to interfere with these forces. When later in the century the cumulative misery and degradation of the 'satanic mills' was beginning to undermine this faith in the beneficent operation of economic forces, the Darwinian conception of the biological struggle for existence served to reinforce the waning belief in the efficacy of unrestrained competition. Newton and Darwin were joined in the doctrine of social Darwinism (See *Social Darwinism in American Thought*, by Richard Hofstader) to maintain these earlier beliefs and economic practices.

These concepts have been the basic ideas in our classic economic theory. Their coercive role in thinking is shown by the way the opponents of the classical school accepted much the same concepts and likewise assumed the existence of an economic system; only they asserted that the system was not entirely beneficent or beyond human interference. Even Karl Marx was influenced by Newton and Darwin, whose concepts he fused into a powerful polemic against classical economics and things as they are, asserting the inevitable operation of economic laws and forecasting the evolutionary development of the kind of society he championed.

Now it has become evident that these basic assumptions and the organizing conceptions of economic and social theory have become obsolescent in the light of the emerging new climate of opinion, with the concept of the 'field,' of space-time, of relativity,' of quantum and nuclear physics and the reformulation of the ideas of a force (space rate of energy) and of power (time rate of energy). These shifts in thinking show that most of our classic economic theory is but an elaborate metaphor and the assumption of an economic 'system,' as a part of nature, is gratuitous and misleading. Moreover, the cumulative observations on other societies, built upon different cultural traditions, with their peculiar assumptions and values, show that each society has its own economic 'system,' its historically developed institutions and practices and arrangements. These differ markedly from our own 'money economy' of free enterprise, as shown by Margaret Mead in *Competition and Coöperation Among Primitive People.*

The political, economic, and social theories based on these Newtonian concepts served as a useful polemic to release us from the surviving institutions and practices of medieval life. They rational-

ized the explosive outburst of energy and fertility in the nineteenth century which brought an amazing productivity but also an appalling misery, exploitation, and degradation. It would appear, however, that these theories are predicated upon the ancient belief in man's helplessness in the face of superhuman and supernatural powers and forces.

## VI

From the early days of man's reflective thinking he has been essentially defeatist about human life and social order. All through history man has been told (or has told himself) in his religion, his philosophy, his law, and his art, that he was a weak, helpless, impotent creature, subject to these superhuman and supernatural powers and controls and that social order was divinely ordained or inherent in nature. Whatever happened was, therefore, inevitable and unchangeable and man must be resigned to accept whatever happened as necessary and, could he but understand it, as desirable. Wars, plagues and epidemics, natural catastrophes, the tyranny of rulers, and the exploitation of the many by the few, have been explained and justified by these theories which always tell man he is abjectly helpless. Indeed, these disasters and oppressions are often interpreted as well merited punishment for his lack of piety or as necessary trials to strengthen his character.

As Mrs. Lynd shows, economic theory in the nineteenth century was the instrument for justifying God's ways to man and for making the misery and degradation of the poverty-stricken mill and mine workers appear as both inevitable and desirable. Likewise, Herbert Spencer asserted with all the authority of his position, that no one should attempt to interfere with the automatic self-regulating social laws and forces which beneficently operated to eliminate the unfit.

In the context of nineteenth-century thinking, these ideas and teachings were reasonable and acceptable, but today they appear as utterly defeatist and cynical. When Dr. Hayek tells us that we can enjoy freedom only by 'submission to the irrational forces of competition' and that 'the only alternative to submission to *impersonal* and seemingly irrational forces of the market is submission to the arbitrary power of men,' he preaches the ancient doctrine of human helplessness and defeatism which has been utilized so long to compel man to submit to every and all indignities and exploitation in the name of superhuman and supernational authority, power, or forces. The tragic irony of the situation is that these doctrines of man's impotence have been utilized throughout the centuries by those who knew what they wanted and were determined to get it at whatever cost to others. These doctrines are the mainstay of the cynical who today wish to continue their historic role but who seem unaware of the new hopes and growing beliefs in the dignity of man now stirring in the minds and hearts of the common man.

As indicated earlier, these are the arguments of the irresponsibles, those who want to do what they please in business and industry and professional practice and be permitted to ignore or evade the consequences of their actions and decisions, their negligence, and their chicanery. In the name of human freedom they claim immunity from any ethical, moral, or social values and assert that only competitive struggling must determine our lives. It is indeed surprising to read Dr. Hayek's invocation of Milton, Locke, and Hume in defense of freedom of enterprise and the irrational forces of competition since those ideas were unknown

to those men. Those writers were concerned with human rights and *political* freedom and would have been incapable of understanding what is meant by *economic* freedom, since that idea was not developed until almost the end of the eighteenth century.

## VII

But we need not pause to debate these issues. The important, the central, problem of our time is how to establish and maintain social order, without invoking authoritarian control, whether human, superhuman, or supernatural, and how to recognize and protect the dignity of man and, if you please, of woman also.

As the evidence increasingly shows, social order is not given as a part of nature; it is not a system or mechanism out in space. Social order is in man; it is that which man himself creates and maintains by what he believes and assumes, what he has selected in nature and human nature for cultivation and elaboration (and has rejected or ignored). Social order is man's self-chosen design for living; what he values and how he feels toward himself and other members of the group are directive in his conduct and so constitute his social order. Social order is not given; it must be achieved. It can be maintained by authority of the ruler, the state, or the church, or it can be maintained by self-disciplined, responsible conduct of each member of society who can and will respect the rights and needs of others. This is what we mean by a free democratic society which for its continuation demands the highest standard of individual and group ethics, not submission to mythical forces or powers. If individuals are to be accorded freedom of action, speech, and belief, the power to contract and to engage in self-chosen activities, then, of necessity they must observe in their individual and group activities, in their personal relations and professional practices, the ethics which will make such freedom compatible with social order and our enduring human values and our persistent aspirations toward human dignity.

Today the older conceptual apparatus of classic social and economic theory has become obsolete. Also, the older legal and religious sanctions invoked to maintain social order with its injustice, misery, and degradation have been losing their credibility. With the rise of new sensibilities and of aspirations, largely due to the more recent trends in our literature, drama, and art, these changes have combined to make our time a period of confusion, disorder, and conflict. But this very confusion and conflict are indicative of the potentialities of the future as we grope forward to a social order in which not only equality of opportunity but the basic equality of human needs will guide our social philosophy.

In this transition from the older and now obsolescent ideas and practices to the new, perhaps the most influential ideas will be those derived from our new understanding of individual personality and the new insights into the dynamics of human conduct. We are learning to recognize how the growing child and adolescent takes over the cultural traditions transmitted by his parents and teachers and develops his highly idiomatic version of what he has been taught, with a persistent way of feeling toward people and himself. Thus, we may view the individual as a unique personality engaged in the multitudinous activities of life, as he participates in social order in his peculiar, personal way, with often warped, distorted conceptions of our cultural traditions, and impelled, if not driven, by his persistent feelings, frequently of

anxiety, guilt, or resentful hostility.

We are beginning to recognize that the individual who ruthlessly strives for power, prestige, and property and utilizes our legally sanctioned patterns of competitive rivalry for these strivings is usually an unconscious victim of his own personality make-up and 'forgotten childhood.' Thus, he is driven to sacrifice not only others but himself for achievement of his ambitions, as he attempts to 'show them' or 'get even,' or releases his otherwise intolerable feelings in his interpersonal relations or various psychosomatic disorders. (See Karen Horney, *The Neurotic Personality of Our Times*, and Henry B. Richardson, *Patients Have Families*).

So long as individuals are so driven, coerced, or self-defeated by their own personality, they have no freedom, however freely they may appear to be living, conducting their business, or carrying on their professional activities. Nor can such unhappy, internally conflicted individuals participate in creating and maintaining a social order dedicated to human needs and values because of their distorted personalities. We are just beginning to recognize that an even more crucial task than winning the Four Freedoms is to achieve freedom for the personality, without which all other freedoms are of little avail.

When Dr. Hayek bids us submit to the 'impersonal forces of competition,' he is telling us to submit to the irrational and often neurotically distorted individuals whose aggregate economic behavior makes up what he calls the 'forces of competition.' While he offers competition as a bulwark against the 'arbitrary power of man,' his doctrine delivers us into the irresponsible powers of the men who, at whatever cost to social order and human values, must dominate and exploit social life for their own personality needs. Dr. Hayek assures us that if ambitious men are encouraged to struggle ruthlessly against each other with no interference by legislation, we may escape the slavery he sees coming from our attempts to develop some economic planning.

But this remedy, which Dr. Hayek offers, is of little avail for, as he himself points out, not only the misguided economic planners, but the businessmen themselves, through devious methods of controlling production and prices, dividing markets and otherwise preventing competition, as in cartels, are also interfering with the 'forces of competition' which offer our only hope for escaping serfdom. It would appear that we are indeed lost.

It is a curious doctrine which some of our editorial writers, businessmen, economists, and professional groups are asking us to accept as the only guide for facing the problems of tomorrow. But the cynicism and defeatism of its implications (of which apparently Dr. Hayek is unaware) has not escaped its apostles. Perhaps, as has been suggested, Dr. Hayek's book is being promoted as their *apologia* by the irresponsibles.

The bewildered and sometimes panicky individuals who are unable to muster the courage and the imagination to face the problems of an evolving technological social order, are but repeating the attitude and performance of those who in every previous generation have resisted the new ideas and practices upon which our present liberty and freedom are based. Today we must remember that we can pay our debt to the great figures of the past only by trying to do for our day what they did for theirs.

This means repudiating the archaic doctrines of man's helplessness and defeatism, reasserting the moral and ethical imperative of achieving a free, but hu-

manly decent, social order as we recognize the dignity and worth of every human personality. For this task we can command the amazing new resources of science and technology but they must be directed by self-disciplined individuals who will use those resources for human conservation.

We do indeed face fateful decisions in our economic and political life. As we critically examine the various proposals now being offered for our guidance, let us not be misled into thinking that we have but two roads to follow—the 'road to serfdom' and the road down which 'Sammy runs.'

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It thus appears that the world is not divided into scientific people and unscientific people, but rather into groups of problems for which our general culture provides us with a scientific or an unscientific approach. Recent psychological studies indicate that even young children interpret simple physical phenomena in a relatively matter-of-fact manner. Supernaturalism is present in the children's thinking mainly in connection with subjects like the sun and stars that are frequently involved in the fairy stories told them by adults.

We may look to the engineer, then, to observe the effectiveness of the scientific viewpoint in that area where our general culture has accepted that attitude, but we cannot look to the engineer to maintain his professional attitude when he is confronted with problems that fall outside that area. While he may have been subjected to rigid training in scientific ways of thinking, the cultural pressure to use other modes of thought in connection with psychological and social problems is continuous throughout his career. He may have an uneasy feeling now and then about the thinking of lawyers and politicians, but they continue to supply him with most of his ideas about human nature. The engineer, when called upon to frame a code of conduct in an industry or to settle a dispute, will, like other men, seize upon the intellectual technique (that is, the legalistic technique) which is most readily available and most generally acceptable in our culture. The principal difference between him and the lawyer is that, as a rule, because of lack of training in meeting problems of this specific type, he is humanistically a good deal more naive. He is inclined to put to literal use outworn formulas which the experienced lawyer uses only with his tongue in his cheek.

E. S. ROBINSON, *Law and the Lawyer*

# ✡ DISCUSSION ✡

## *MISSING: ONE SIGNAL REACTION*

ALFRED C. AMES

SAY *polymerization* to an autoist, *obfuscation* to a voter, or, possibly, *liberal arts* to many college students—and, very frequently, no meaning is conveyed. Say *conscientious objector* to the man in the street, or elsewhere, and a reaction, be it 'signal' or 'symbol' reaction, takes place. That phrase means something to people. This fact Dr. Leo P. Crespi of the Department of Psychology of Princeton University has experimentally demonstrated, and, what is much more, he has investigated the content of the meaning. His findings appear in four extensive studies in the *Journal of Psychology*,[1] and make most delightful reading for a student of general semantics. For here the public, as Dr. Crespi describes its views, is shown to illustrate semantic principles, not in the breach, but largely in the observance thereof!

Dr. Crespi and his associates of the staff of the Office of Public Opinion Research at Princeton polled three groups of respondents on their attitudes toward conscientious objectors: (1) representative Princeton students in psychology courses, who filled out three questionnaires the week of March 24-31, 1943; (2) a 'regular national representative sample' of the OPOR on March 1, 1944; and (3) a carefully chosen representative sample of 308 cases in Trenton, New Jersey, and its environs late in 1943 and early in 1944. The four full reports (and Dr. Crespi promises more studies in the future) comprise about one hundred forty printed pages, and to these reports I urge all interested readers to turn. What I propose to do here is to select and summarize those findings of most striking interest to students of general semantics.

As stated above, 'the phrase *conscientious objector*, despite its formidable length, has attained wide currency even among the lowest educational level.' Only 3.5 per cent of the Trenton group had never heard of CO's. But 77.9 per cent had never, to their knowledge, personally met even one CO. On the basis of second-hand verbal sources, Americans have formulated attitudes. Consistently low figures appear in the 'no opinion' categories.

The most immediate impact of public attitudes toward CO's in terms of events in persons' lives is doubtless in the matter of 'social rejection' of CO's. The interviewers at Trentor presented to each respondent a 'social rejection thermometer,' a self-rating scale, on which the respondent was to indicate, first, his

[1] Leo P. Crespi, 'Public Opinion toward Conscientious Objectors' (in four installments to date), *The Journal of Psychology*, XVIII (1944), 81-117, and XIX (1945), 209-310. Dr. Crespi has materially facilitated the preparation of the present paper.

*personal attitude* and, second *his opinion of the average public attitude*. The 'degrees' on the thermometer were defined as follows:

100° 'I feel that CO's should be shot as traitors.'
80° 'I feel that CO's should be imprisoned.'
60° 'I don't want anything to do with CO's.'
40° 'I would accept CO's only so far as having them for speaking acquaintances.'
20° 'I would accept CO's only so far as having them as friends.'
0° 'I would treat a CO no differently than I would any other person, even so far as having him become a close relative by marriage.'

Suppose you pause a moment to record both your own attitude and your impression of average public feeling.

The two typical 'thermometer readings' proved markedly different. — The 'stereotype,' the public's opinion of public opinion, proved 'not less than complete ostracism.' The median and the mode were both at 60°, the mean, at 47.9°. This would indicate 'crushing disapproval,' a vehement signal reaction to anyone labelled 'conscientious objector.' But what does the public really think?

In Dr. Crespi's words, 'The largest proportion of the public evinces . . . *no rejection whatsoever*. More than one-third of the respondents (37.3 per cent) chose 0 degrees of rejection as their own position. Fifty-six per cent of the group chose 20 degrees or less on the thermometer scale.' And Dr. Crespi explains that, because of the trend to conformity with the stereotype in expressing a 'public' attitude and because of the invariable drift towards the middle of any scale, the declared rejection is probably inflated beyond what it actually is. The declared rejection is so little that Dr. Crespi comments, 'If Democrats were to judge Republicans on the SRT [Social Rejection Thermometer], one could not expect an amount of discrimination much less.'

All this is of no little relevance to general semantics. The pattern of evaluation of self and others: 'I'm tolerant and reasonable and broadminded, etc., but people generally are not'—this pattern has been observed, and perhaps exemplified, too, at times, in varying contexts by those who are especially aware of the evaluating process. Here Dr. Crespi shows that *we need not think so ill of our fellows as to attribute to them a bitterness and hostility toward men of conscience and integrity that we ourselves may be too enlightened to feel. The signal reaction the public attributes to itself exists in imagination only.* It is an item of ill-will that isn't really there!

The statistics were studied with respect to different variables: extent of education, sex, age, and economic status. No significant difference between men's and women's attitudes was found, and people under forty showed but slightly greater friendliness for CO's. Economic status, within comparable educational groups, suggested slightly greater severity on the part of the wealthy. Education proved to be the main determinant of the extent of rejection, with the major increment of tolerance appearing between those who had never entered high school and those who had gone to high school, but no further. Yet though the effect of education on attitude was large, the effect on the stereotype was small. *College people, more than others, imagine a great gulf between what they individually feel and what they think the public feels.*

Other descriptions of actual public at-

titudes towards CO's may be briefly summarized: less than a fourth said CO's were 'cowards'; there were twice as many under-estimates of the number of CO's as over-estimates; only 20.4 per cent assume the 'fight or jail' position, thus showing only minority opposition to alternative service provisions; 76 per cent advocate government support of men in Civilian Public Service; 55.1 per cent said that after the war they will be 'just as friendly' to CO's as to others. On all issues, the more highly educated the group of respondents, the more favorable to CO's the attitude. Also (and this is a note especially for advocates of 'extensional orientation'), 'the members of the public who have met CO's are reliably reported to express less discrimination toward them.'

But of course toleration and approval are two different things. The national sample was polled on the question: 'In general, do you approve or disapprove of conscientious objectors?' Whichever the answer, intensity of reaction was then marked on a self-rating scale of the following values: 0, neutral; 20, slightly; 40, moderately; 60, strongly; 80, very strongly; 100, extremely.

Percentages disapproving of those who expressed an attitude, and the overall mean intensity of attitude of the whole group, are exhibited in part in the following table:

| | Per cent disapproving | Mean attitude |
|---|---|---|
| Entire national sample | 80.2 | —52.6[1] |
| College educated | 71.1 | —39.8 |
| High school educated | 83.0 | —55.8 |
| Grammar school educated, or less | 84.0 | —58.5 |
| Men | 80.1 | —53.4 |
| Women | 80.3 | —51.7 |
| Below 30 | 79.1 | —48.8 |
| 30-49 | 80.0 | —53.2 |
| 50 and over | 81.8 | —54.3 |
| Rural | 83.7 | —58.0 |
| Urban | 77.4 | —46.9 |
| Republican | 77.5 | —47.5 |
| Democrat | 84.2 | —57.9 |
| Church | 81.6 | —54.8 |
| Non-church | 80.2 | —49.6 |
| Middle Atlantic | 71.5 | —37.6 |
| South | 83.1 | —59.7 |
| Middle West | 86.0 | —61.2 |

[1] The negative sign indicates disapproval.

In short, the composite person somewhat more likely than others to be approving of CO's will be a college graduate living in a Middle Atlantic city, a Republican, not a church member, and as likely to be a man as a woman. Likewise, the disapproving is likely to be a person of no more than high school education living on a Middle Western farm, a Democrat, a church member, and as likely to be a woman as a man. Dr. Crespi feels that changes since the beginning of the war are wider disapproval of CO's on the part of women, young people, and Middle Westerners. The Gallup poll at the time of the sentencing of the Union Theological Seminary nonregistrants in 1940 showed these three groups to be at that time significantly more friendly than contrasted groups.

This report, showing substantial—though by no means extreme or unanious—disapproval of CO's, contrasts eloquently with the report showing very little social rejection of CO's. The moral is clear and simple: the American public, even in war time, can and does differentiate between ideas and people. It can disapprove a position, yet maintain a friendly attitude towards those who take

that position. On the subject of conscientious objection, the public does not confuse its levels of abstraction and identify people with the ideas people hold on a single, if important, issue.[3]

Furthermore, education is again shown to do something to people, for better or for worse. In tolerance of CO's, a great gain comes with secondary schooling; in approval (*i.e.*, to a large extent, agreement), a marked increase comes with college education. Throughout, on issues both theoretical and practical, the best informed section of the public is the least condemnatory of America's pacifist minority.

In general, Americans are shown to be, at a point where personal prejudice and rejection might be and are taken for granted, capable of respecting a small ideological minority. There is no more searching test for the love of liberty than this, and it is a test Americans pass better than we have heretofore realized.[4]

[3] Dr. Crespi's first study, with Princeton students, showed least disapproval of CO's by that group of all those studied. The mean social rejection was '15 degrees.' Only 2 per cent thought CO's pure cowards; only 2 per cent advocated 'fight or jail'; 93 per cent favored pay for Civilian Public Service. Most significantly, when polled on six different 'types' of CO's, reactions to three were positively *favorable*. The Princeton students know $CO_1$ is not $CO_2$. The greater the compromise with conscription made, and the more 'religious' the motivation, the more the CO type was approved. The distinction between 'religious' and 'intellectual' CO's is another illustration of the power of words. Numerous CO's whose sincerity was not questioned have been denied alternative service and have been sentenced to prison because they would not or could not describe their positions in theological terminology.

[4] Dr. Crespi reports that a survey made in the spring of 1945 reveals that public approval of CO's is increasing. Twenty-six per cent of those polled this year expressed approval. Three-to-one and two-to-one majorities now favor overseas service, specialized assignments, pay, and dependency aid for drafted CO's. Dr. Crespi comments, "It is . . . thought-provoking to find that the mounting casualty lists and pyramiding difficulties of the past year have produced not increased antagonism toward CO's, but on the contrary a reliable gain in approval.'

# *IMPLICATIONS OF GENERAL SEMANTICS FOR PSYCHOSOMATIC MEDICINE*

LOUIS PAUL, M.D.*

General semantics, like psychosomatic medicine (6), rests explicitly on the assumptions of organism-as-a-whole-in-environments and multicausality. General semantics arose out of an investigation (9) of the difference between $Smith_1$ and Fido, which difference was found to be the ability of $Smith_1$ to begin building verbal and concrete structures and collecting data where previous generations left off.

Korzybski called this characteristic ability *time-binding*, and set out to find its mechanism, which led to a study of man at his 'best' (science and mathematics) and at his 'worst' (psychiatric illness).

Unexpected results followed, and these were systematized in general semantics (10), ' a new branch of empirical natural

* Until entering the armed forces in the Summer of 1945, Dr. Paul was on the staff of Bellevue Psychiatric Hospital, New York. His article is reprinted by permission from *Psychosomatic Medicine*, Vol. VII, No. 4 (July, 1945).

science, underlying a general theory of human evaluations and orientations . . . general semantics is concerned with the linguistic and semantic mechanisms which function in human nervous systems to condition our knowledge, activities and adjustments in life.'

Korzybski pointed out previously disregarded factors in the structure of language which in principle lead to delusional, false to fact 'thinking' because the structure of our language does not fit the world known to science, 1945. Verbally, for example, we can split a man into 'body' *and* 'mind,' but try doing it empirically. Only in modern physics and mathematics did Korzybski find languages whose structure was similar to the structure of the human nervous system and the world.

The term *semantic reaction* representing an organism-as-a-whole-in-environments response to events, symbols, words, etc., in connection with their values, was introduced. Korzybski demonstrated that we disregarded the *verbal environment* of opinions, doctrines, creeds, etc., based on a language of primitive outmoded structure. We are unaware of the organismal effects on us of our associates' reactions, and as unconscious of the attitudes and evaluations surrounding us as of the air we breath. In a word, we disregard the neuro-linguistic and neuro-semantic environment *as environment*.

Freud and Burlingham (7) give many instances of infants who were anxious or not during air raids depending on whether their mothers had been anxious or not—excellent examples of the environment of evaluations at work.

From his extensive studies of the structural methodological aspects of modern physics (including quantum mechanics and colloidal chemistry), mathematics, psychiatry, neurology and epistomology, Korzybski came to the explicit denial of the aristotelian 'laws of thought,' and the formulation of a non-aristotelian system of orientations to replace the present aristotelian one, just as euclidean geometry was replaced by many non-euclidean geometries, and newtonian physics by non-newtonian einsteinian physics.

In addition to this, *general* workable devices were established to train individuals in general semantics (one possible non-aristotelian system) so as to promote proper evaluation, which is based on predictability, and beneficial semantic reactions; in a word, sanity.

It is not my intention here to summarize general semantics, as this has been done adequately elsewhere (2, 3, 4, 11, 12, 13, 14). I want to point out the possible contributions general semantics can make to workers in psychosomatic medicine.

In formulating theories (linguistic structures) and in describing observations, workers in psychosomatic medicine are unavoidably handicapped at this date because theirs is a hybrid discipline, stemming from physiology and medical psychology. There is the difficulty of changing from a 'body' *and* 'mind' to a body-mind system.

We need to be acutely aware of the fundamental change in our 'thinking habits' involved in acquiring a body-mind, organism-as-a-whole, *psychosomatic* attitude, and of the enormous difficulties faced in switching from one system to another. For what we are attempting is no less than a change from an aristotelian, static, elementalistic, either-or system which splits the organism, etc., to a non-aristotelian, dynamic, non-elementalistic, multivalued system which considers the organism-as-a-whole-in-environments and is structurally similar to our nervous systems and the world of science.

Quotations like the following from authors of books on psychosomatic medicine remind us that doctors as a class have been intensively and practically exclusively trained in the organic ('body' *and* 'mind,' 'emotions' *and* 'intellect,' etc.) tradition, *and* they will acquire a psychosomatic attitude only with considerable difficulty. I realize that what counts is the attitude of the writer or teacher, if this be the coveted psychosomatic viewpoint, but sloppy formulations, despite a psychosomatic approach, will hinder training in a psychosomatic orientation and confuse the student (*cf.* 16).

> The problem of psychosomatic medicine must always remain the fundamental relation between psyche and soma but instead of speaking of either/or, we have got to learn to talk in terms of the complementary relationship of many factors (18).
>
> Of course this organismal concept changes our focus both from that of anatomical pathology and from that of the functionalists who, in searching for the origin of a given illness, assume that they must choose between physiogenesis and psychogenesis. In order to understand disease processes we must give up the 'either or' type of thinking and shift our emphasis to 'both and' (6).

I submit that if we have a psychosomatic (organism-environment continuum) outlook the 'problem' of the 'fundamental relation between psyche and soma' will not exist, because that 'problem' is a pseudo-problem based on the structure of our language, which does not fit the world of scientific facts. For as we know, we deal in life with non-split individuals.

The change from 'body' and 'mind' to body-mind is similar to and as far-reaching as that made by the physicists in going from 'space' *and* 'time' to space-time. The *and* has tremendous structural implications in the old aristotelian language. It involves additivity and linearity, not to be found (except as special cases) in a functional, dynamic, non-elementalistic system (10, pp. 603-608). That is why physicists now speak of space-time with a hyphen. Psychosomatic physicians should do likewise with the verbal, false to fact, dichotomies in medicine.

General semantics clearly formulates the wider structural issues underlying multicausality and a psychosomatic attitude, and provides general devices for facilitating the change, among others, from the old 'body' *and* 'mind' viewpoint to a new organism-environment outlook.

Psychosomatic medicine lacks psychosomatic terms. In reporting psychosomatic phenomena, there is the problem of 'how to say it.'

General semantics provides several psychosomatic terms and the principles of a new, scientifically sound, well-adapted nomenclature. Campbell writes (4):

> A few new terms replace obsolete ones and the extensional devices change the structure of others. . . . The term *abstracting* is applicable at all levels of *neural* functioning whether physiochemical or symbolic. *Evaluation* replaces the never resolved dichotomy of 'intellect' and/or 'emotion' with a non-elementalistic term covering both aspects of a unitary process. Both terms, being general, can be given specific or extensional content by referring to particular levels or types of abstracting or evaluating. . . . The extensional devices of *indexing, dating,* and the free use of *etcetera* or its equivalents, together with the liberal use of *quotation marks* and *hyphens* when applied to ordinary, static terminology, confer flexibility, differentiation and a dynamic structure to statements.

While the general educational benefits of training in general semantics are well established (1, 8), its possibilities and usefulness in psychotherapy have not been determined. It is not considered a psychotherapy in itself, but can be used directly with some 'mildly' maladjusted patients, or indirectly in helping the physician sharpen his formulations to the patient, thus shortening the treatment period. Psychotherapeutic applications are discussed by Campbell (4) and others (5, 14, 15, 17).

Korbybski insists that modern physico-mathematical *methods* are prior to any science, psychiatry and psychosomatic medicine included.


## SUMMARY

It is suggested that workers in psychosomatic medicine can find in general semantics an empirical science dealing, among others, with organismal reactions to events and symbols in connection with their life-values:

1. new psychosomatic terms which psychosomatic medicine lacks, and the principles for creating a psychosomatic nomenclature and theory-system;
2. the wider, *general*, structural foundations, based on modern physics, mathematics and linguistics, which underlie psychosomatic considerations;
3. recognition and correction of linguistic factors which unavoidably condition our reaction and evaluations;
4. a non-aristotelian system which provides a bridging term between physico-mathematical disciplines and biological sciences; and
5. general education and therapeutic means (useful to both physician and patient) for changing from the old 'body' *and* 'mind' system to a new psychosomatic attitude. General semantics helps the physician sharpen his formulations to the patient and thus shortens psychotherapy. The extent of its psychotherapeutic usefulness is still to be determined.


Korzybski makes this summary statement (14):

> General semantics is not a medical science, but like bacteriology, it is essential to general medicine and psychiatry. The orthodox medicine without psychiatry and psychosomatic considerations represents nothing but glorified veterinary science. Psychiatry [psychosomatic medicine] and psychotherapy without general semantics cannot help but involve metaphysical factors.

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# *ADDITIVE AND NON-ADDITIVE**

S. I. HAYAKAWA

THE RELATIONSHIPS of simple arithmetic are known as additive relationships. Two plus two equals four. Three minus one equals two. To an extraordinary degree, additive assumptions underlie our thinking. Upon them is based our feeling that if John gets richer, James must be getting poorer; and conversely, that if I am getting poorer, somebody else is getting richer.

Additive assumptions have a considerable place in race and religious persecution. In terms of these assumptions, gentiles can be persuaded that their misfortunes are due to something 'taken away from them' by Jews; whites can oppose increased opportunities for Negroes, feeling that the latter's gain necessarily involves, by simple arithmetic, the former's loss.

Throughout human history, men and nations have acted on additive assumptions. Men have prospered, or tried to prosper, by snatching riches away from others; nations, by snatching territory from each other. The victims have always gritted their teeth and waited for the chance to snatch everything back again, with something extra to boot if possible. So the game of snatch goes on eternally.

In some simple situations, there is justification for the additive point of view. If there are 100 chickens to 100 customers, and the first 10 customers get 10 chickens apiece, the others are not going to get any. In times of scarcity, therefore, people are compelled to think in these arithmetic terms. Most people believe, even today in an age of potential plenty, that the rules of the game require that we snatch each other's chickens and that we 'protect our standard of living' by preventing others from having any chickens.

In the arguments against the continuation of our reciprocal trade agreements, there is a constant appeal made to our additive habits of thought. If we help China or South America to prosper after the war, we can do so only by becoming poorer ourselves. We must 'protect our standards of living' by trying, by means of tariff barriers, to prevent anyone from doing business except ourselves.

Henry A. Wallace's ideals, scornfully described as 'a quart of milk for every Hottentot,' are again assailed from the point of view of additive assumptions.

* Reprinted by permission from the author's weekly column, 'Second Thoughts,' in the Chicago *Defender*.

The implied threat is that if the Hottentots get milk, your children will have to do without. Reactionaries, therefore, jeer at 'plans to make Uncle Sam the Santa Claus for all the World' and angrily denounce the 'dreamers' who want to set up 'an international WPA.'

And, talking about WPA, the attacks on that much maligned institution were also made on additive assumptions. People were made to feel that the gain of WPA workers meant a loss for those not on WPA. The facts were, of course, otherwise. Those not on WPA kept their jobs or remained in business because WPA workers had money to spend. But facts mean nothing when your mind is imprisoned by primitive assumptions.

'If I have one apple, and you have an apple, and we trade, we still have only one apple apiece.' Such are the simple additive relationships of an age of scarcity. So we try to grab the other fellow's apple without giving up our own.

But commerce, equitably conducted, is a 'time-binding,' or co-operative activity. The results of co-operation, like the results of intellectual interchange, are not additive; they are *cumulative*. 'If I have one idea, and you have an idea, and we trade, we both have two ideas.' Similarly, if I have more apples than I can eat, and you have more milk than you can drink, and we trade some of my apples for some of your milk, *we both enjoy an increased standard of living*. Intellectual life, science, and modern commerce are *non-additive* in their effects. *The more you help others prosper, the more you prosper yourself.*

It is vain, however, to try to tell the real reactionary mossback that the way to American prosperity is to help other nations prosper, or that the way to happiness for the majority is to guarantee the happiness of minorities. Because of the additive assumptions in his thinking, he will stare at you blankly and tell you that you are an idiotic dreamer.

One of the aims of general semantics is to see to it that the next generation doesn't grow up with additive assumptions.*

* 'It's that simple,' says the caption over the following editorial, which appeared in the Chicago *Daily News*, October 1, 1945:

'Eastern Air Lines has re-established the pre-war work week of 40 hours and raised "take-home pay" to equal what has been paid for a 48-hour week.

'If every employer did the same thing, would anybody be better off? Not if every worker reduced his working time to 40 hours and maintained the same rate of hourly production.

'In that case everybody in the country would be 16.66 per cent worse off. Because there would be one sixth less goods and services produced.

'Well, who thought that up? The man who discovered arithmetic.

'There is only one arithmetic. There is no capitalist arithmetic, no labor arithmetic.

'Whoever tries to mix an "ism" with arithmetic is trying to make a sucker out of somebody.'

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Hastings, Neb., July 24. (A.P.)—A resounding crash, followed by another and another, brought passersby and then police running to where a soldier was smashing the windows of an automobile. Police started asking the soldier questions and left, scratching their heads. They said the soldier owned the car and was giving it punishment—because it wouldn't start. Nothing illegal, the officers explained. The Denver *Post*.

# ✡ BOOK REVIEWS ✡

## *Frank on Freedom*

FATE AND FREEDOM: A PHILOSOPHY FOR FREE AMERICANS, by Jerome Frank. New York: Simon and Schuster, 1945. $3.

*Fate and Freedom* by Jerome Frank is the fourth of his books, preceded by *Law and the Modern Mind*, *Save America First*, and *If Men Were Angels*, and many professional and popular articles. On the jacket of the book there is a short and justified review of the book, including a brief biography of the author with his picture. Judge Frank has had an unusually distinguished career. He started as a practising attorney, and in addition was a research associate at the Yale Law School. Then he became a public servant, and at present is Judge of the U. S. Circuit Court of Appeals for the Second Circuit.

As Judge Frank himself emphasizes, he is not a historian or a 'philosopher.' All his writings are very clear. He has a way of writing which is constructive for the reader: the text is followed by many appendices and substantial notes which sometimes are more important than the actual text. This is not to minimize the value of the text; however, they are especially clarifying as supplements.

In the book under review Judge Frank tackles the perennial problem of 'fate' *versus* 'freedom' which has bothered humans for milleniums. The mathematician Cassius J. Keyser has as a subtitle to his *Mathematical Philosophy*, 'A Study of Fate and Freedom' (1922). It is not a coincidence; simply, those existing problems are analyzed from different points of view. For the mechanisms involved, consult the Foreword to *A Theory of Meaning Analyzed* by Thomas C. Pollock, *et al.* (General Semantics Monographs III, 1942). Keyser approached the problems from a mathematical point of view. Frank approaches the same problems as a lawyer, and a very well read and well informed lawyer at that.

Judge Frank for many years practised law as an attorney, and so learned the necessary semantic flexibility involved in being consciously one-sided while defending the interests of his client. As an appellate judge he had to put himself in a neutral position and judge impartially two sides of a case, as presented by opposing lawyers, in consideration of facts. With his reading and knowledge he was successful in both aspects of his profession.

In this book he discusses problems such as 'the inevitabilists,' where he deals with the eventual scientific aspects of history, which he rather justly calls 'twistory,' and goes into empirical data documenting his opinions. In Part II he speaks about the 'ascetic religion of science,' and explains the often fatalistic character of older sciences. Then in Part III he com-

pares 'natural law and human nature,' and considers the character of 'nature and reason.' In Part IV he embarks on the most difficult problem of 'science and free will,' questioning self-evident 'truths'; he propounds 'faith ladders,' and then tries to convey something about 'hard facts,' not realizing that 'facts' are multiordinal and have no content or value outside of a given context. Without this realization many life, legal, or even scientific confusions result, and pseudo-problems are created. Finally, in Part V he analyzes the relation of 'freedom' and the future in connection with responsibility, and attempts to formulate a new synthesis, following his conscious or unconscious fundamental assumptions.

In the appendices he analyzes profoundly the influence of Hegel's and Fichte's German 'philosophies' in connection with Marx's theories down to nazism and fascism anywhere today, the United States included. The arguments are well informed and well formulated, but do not seem adequate from a life point of view, 1945.

Here I want to defend Einstein from being evaluated as 'an old maid,' 'an absolutist,' and what not. I gather that Judge Frank has read widely in the comparatively simple field of modern physics and has been seriously influenced by it and Heisenberg's principle of indeterminism, which he eventually needs as premises for his thesis in struggling against determinism. Judge Frank's opinion of Einstein is due to at least two elementalistic factors. He does not seem to realize that although Einstein knows his physics, in many ways he is more of a mathematician than a physicist. In fact, he should be considered, judging even by the old classifications, as a mathematical physicist. More correctly, Einstein stands by himself.

Somehow the outlooks of the mathematician and the physicist are different. Working in the field of modern wave mechanics is a problem for the mathematical physicist, because neither a mathematician nor a physicist separately can handle such non-elementalistic problems adequately. In fact, submicroscopic, subatomic, inferential 'physics' turns out to be strictly a non-elementalistic physico-mathematical discipline. The laboratory physicist, no matter how good, often appears what may be called naïve; not so the mathematical physicist.

In mathematics we have rigorous theories of *invariance;* we have *topological* theories and the *absolute* or *tensor calculus,* etc., all based on invariance, which *implies* 'philosophical' 'determinism.' Hence Einstein.

Hardly anyone could be more of an admirer of Einstein than I am, but it must be granted that he notoriously lacks language - consciousness. Einstein, among others, missed and is missing the human life importance of the revolutionary method which he and Minkowski originated. Einstein is at his best when he deals with equations; otherwise, a great deal could be said about his lack of consciousness of the human values of non-elementalistic physico-mathematical *methods.* I would go so far as to say that *if* Einstein would have formulated his method *as method,* he would automatically have been led to more studies and consequently to the formulation of a non-aristotelian system.

On several occasions Frank uses the expression, 'the finiteness of man,' a very old psycho-logical dilemma which implies a confusion on the problems of 'infinity.' If Frank would take seriously the definition of number in terms of human behavior, given on page 258 of *Science and Sanity,* Chapter XIV on 'Infinity,'

and particularly Professors Kasner and Newman's great book *Mathematics and the Imagination*, he would not use the expression, the 'finiteness of man.' Number and 'infinity,' epitomized in *'et cetera,'* which is the foundation of mathematical induction, are man-made.

Judge Frank has missed some implications of the outstanding work of Dantzig in his *Number*, the subtitle of which should be 'The Natural History of Number' instead of 'The Language of Science.'

Frank realizes himself, as other scientists do, that 'today scientists do not follow Copernicus in saying that the earth revolves about the sun or follow Ptolemy in saying that the sun revolves about the earth. They say that either assumption may be employed, the choice depending on convenience' (p. 303). The *general* arguments between 'determinism,' 'indeterminism,' etc., are not fruitful. It is a problem of choice and discovering, through analysis of facts, which kind of determinism is a better map for the territory. In physics, obviously the first order two-valued 'determinism' fails, but with humans second order 'determinism' that there is no first order 'determinism,' still remains determinism of second order. Judge Frank is aware of second order mechanisms, as on page 337 he says, 'The only absolute [second order 'absolute'] knowledge on which he can count is the knowledge that human knowledge will never be absolute [first order 'absolute'], will always be relative and limited.'

It is equally indifferent whether we accept determinism or indeterminism. It is only a problem of convenience. More could be said about which attitude corresponds more to the so-called organization of the human 'mind.' Of course the old two-valued, either-or, causality or determinism is today, with modern extensional non-aristotelian achievements, out of the question. However, there is such a thing as infinite-valued 'causality' and infinite-valued 'determinism,' which is much more convenient and is the foundation of reasoning, and corresponds to the working of the human nervous system. Physically speaking, theoretical infinite-valued determinism amounts to the same thing as the new 'indeterminism' in physics. We have to enlarge our method of evaluation from two-valued to infinite-valued, and so pass from the old aristotelian orientation to the new non-aristotelian orientation, where infinite-valued determinism remains, and can account for what we know about facts.

Some wise Englishman has made the profound observation that 'to know *anything* we have to know *everything*.' What is the actual situation? If we accept this form of representation in terms of 'philosophical' generalities, then obviously human knowledge is impossible, which is not true to facts. Another problem of linguistic miscarriage, which often leads to miscarriage of justice. Who solved that baffling problem, thus making human knowledge possible? The mathematicians did, over two thousand years ago, admittedly not knowing the epistemological magnitude of the problem they were solving. They originated, through Euclid, the postulational system, which is unavoidable among humans, whether we are conscious of the assumptions or not. The postulates are *accepted* as 'everything *known*,' from which the consequences of 'anything' under consideration follow. Here we face the interplay of 'fate' and 'freedom,' and the solution between 'determinism' and 'indeterminism,' so different in the orientations of mathematicians and 'philosophers.' Therefore, we can know in a *limited* way 'anything' on the basis of the postulational assumptions of 'everything.' It amounts to a deliberate

limitation of 'everything' for the sake of the 'anything.' Once more a 'philosophical' verbal sham battle is eliminated.

Science, sanity, psychotherapy, etc., depend on unravelling the dangerous unconscious assumptions about which Poincaré and Freud speak, and which are the main subject of general semantics.

Look at the old dogfights some years ago, bitter and dirty, between the corpuscular and wave theorists of radiation, or the newtonians and non-newtonians. The newtonians fought like wild animals, in vain, until the non-newtonian wave mechanics men came in, beginning with de Broglie, Heisenberg, Schrödinger, Dirac, and who not, all based on the work of the 'old maid' Einstein, the original non-newtonian. And so some silly 'philosophical' problems turned out to be no problems at all. We humans are made that way: once we face a problem consciously, we solve it and all experience proves that this observation is correct.

The reader who wants more data on this subject is referred to *Science and Sanity*, pages 93, 94, 310 f., 439 ff., Chapter XV, and 'determinism' in the index. There the problems of two-valued and infinite-valued determinism and causality are discussed.

I strongly urge students of general semantics, teachers, medical men, psychiatrists included, lawyers, personnel counsellors, industrial leaders, social workers, those working in the rehabilitation of the veterans, etc., etc., to get this book and study it, to become conscious of the difficulties which are inherent and unsolvable with the old orientations. Epistemology, or the theory of knowledge, or 'how we know,' is still too little known. If the older 'philosophies' are mostly obsolete and usually discarded by serious readers, we must try to save epistemology. But to do that we must become conscious that such difficulties do exist. The book of Judge Frank certainly presents those ago-old problems in a masterful way, concisely and clearly. With new non-aristotelian formulations many of those old, yet real, problems automatically disappear, but they remain problems with which we all must continue to cope for some time to come until non-aristotelian orientations become entirely general.

An orientation borrowed by analogies from physics alone won't do: we have to go deeper into the foundations of mathematical orientations and study how man-made numbers behave, then perhaps we will have an inkling of how the human 'mind' works.

*Fate and Freedom* is one of the clearest books which have appeared lately, and will help the reader to understand the hopeless ambiguity of aristotelian 'fate' and 'freedom.'

The great United States mathematical physicist, J. Willard Gibbs, in his *Elementary Principles in Statistical Mechanics* (Yale University Press, 1914) stressed the point that in mathematical physics there is such a thing as 'degrees of freedom.' Whoever wants to study the problems of 'fate' and 'freedom' should be familiar with that physico-mathematical formulation of *'degrees of freedom.'*

While finishing this review world-shaking and epoch-making news has appeared that finally the scientific dream of the liberation of atomic energy has been achieved. Once more the mathematical physicists have solved a so far insoluble problem.

ALFRED KORZYBSKI.

# *Politico-Genetics**

THE DICE OF DESTINY. AN INTRODUCTION TO HUMAN HEREDITY AND RACIAL VARIATION: By David C. Rife. Long's College Book Co., Columbus, Ohio, 1945. 163 pp. $1.75.

The calamity of the Second World War has awakened in many scientists a sense of social responsibility. It is this awakening, no doubt, that has prompted several geneticists to outline for popular consumption those aspects of their science which bear on man's social affairs. Among the books devoted to 'politico-genetics,' to use the author's apt phrase, the one under review is worthy of note. It is interestingly written, without cheap effects or exhibitionist wit, and with a simplicity and sincerity that will appeal to most readers. The parts of genetics that are not directly relevant to social problems are left severely alone, no matter how dear they may be to the hearts of specialists. For example, chromosomes are not mentioned. The core of the book is an account of what is known or conjectured about the inheritance of human traits and their modification by the environment. A good critical sense is displayed in the discussion of eugenical problems. The book concludes with chapters on 'Race' and 'Genes and Democracy.' In the last named the author gives the reader a glimpse of his ideas on what the world of the future ought to be like.

The basic problem of politico-genetics is still the old nature-nurture puzzle. To be sure, we no longer divide human traits into sharply distinct categories of hereditary and environmental ones. Heredity determines the reactions of the organism to the environment. Yet, some genes produce the same character in all known conditions, while the expression of others is different in different environments. What we want to know is the amplitude of variation in the phenotype which a given genotype may develop in the environments actually available or potentially possible. The knowledge of human biology is, unfortunately, so incomplete that much scope is left for personal opinion of individual writers in this field. More than some, but less than other writers on politico-genetics, Professor Rife is inclined to regard heredity as being rigidly determinant. Heredity can hardly be taken to stand for 'The Dice of Destiny' if its realization depends largely upon the environment which is in part controlled by human will. Although he quotes the data on the modifiability of the IQ, the author concludes that 'heredity plays a major role in the determinations of how bright you are.' Newman and his collaborators reached the conclusion, quoted by Rife, that 'physical characteristics are the least affected by the environment, that intelligence is affected more, educational achievement still more, and personality and temperament the most of all.' The role of heredity in the formation of the human personality is perhaps the central

* Reprinted by permission from *Science*, August 31, 1945. Dr. Dobzhansky is professor of zoology at Columbia University, formerly professor of genetics at California Institute of Technology. He is a member of the National Academy of Sciences and past president of the Genetics Society. In his observation that the 'consistent genetic trend' for human beings is 'toward phenotypic plasticity,' he (along with other extremely modern investigators in his field) offers biological evidence in support of the 'infinite-valued orientations' and 'flexibility of evaluations' which general semanticists regard as mandatory to human survival. Needless to say, this new trend in human biology, which Dr. Dobzhansky describes quickly but brilliantly in his review, is destined to effect profoundly psychology, psychiatry, and other human sciences.

problem of the nature-nurture relationships. Observations and experiments show that heredity is very important in the determination of personality traits in domestic and wild animals. The author thinks that since 'there is no reason to believe that man is a unique exception,' it follows that 'of the many components which enter into the determination of personality, it seems probable that some may be largely determined by heredity, and others by environment.' Since races of animals frequently differ in personality traits, he believes that human races probably do so as well.

The frequently advanced argument that because psychic traits in animals are rather rigidly determined by heredity they are so determined in man deserves careful consideration. The analogy may be good, but arguments from analogy do not prove anything. The variability found in a living species is governed by natural selection according to the demands of the adaptation of the organism to its environment. Now, adaptation may be attained either through a reaction norm that responds to variation in the environment by evolving optimal phenotypes, or else through genotype specialization for the particular environment in which the species normally lives. Which of these methods of adaptation is resorted to depends upon the inherent properties of the species, as well as upon the degree of stability, or changeability, of the environment. The greater the variety of conditions to which the organism is called upon to respond, the more versatile must be the reaction norm.

Man is a unique product of evolution in that he, far more than any other species, has escaped from the bondage of the physical and the biological into the social environment. Furthermore, human social environments are notable not only for their extreme complexity but also for the rapid changes to which immediate adjustment is demanded. Adjustment occurs chiefly in the psychic realm. The more advanced the social organization the less important are the physical characteristics. Because the changes in the human environment are not only rapid but diverse and manifold, genetic fixation of personality traits is decidedly undesirable. The survival, much more the success, of an individual in most human societies depends upon his ability rapidly to evolve behavior patterns which fit him to the kaleidoscope of circumstances he encounters. He must submit to some, rebel against others, and escape from still other situations. Individuals who display a fixity of response suffer under most forms of human society. An animal becomes adapted to its environment by evolving certain physical or behavioral traits; the adaptation of man consists chiefly in developing his inventiveness.

If social conditions should remain stable for many generations, genetic types adapted to different forms of social organization, and to different stations within a given society, might eventually arise. Such stability does not obtain, however, and our western civilization is particularly noted for rapid transformations. When empires fall, or when ruling classes are overthrown, woe befalls their members unless they change their behavior speedily. A consistent genetic trend may, therefore, be expected in the evolution of human psychic traits, namely, that genotypes will be selected which permit more and more plasticity, and less and less fixity, in personality characteristics. The end result of this trend will be that the genotypic differences in personality traits will become quite unimportant compared to their phenotypic plasticity. This should not be construed to mean that mankind

tends to become genetically uniform; the trend is not toward genotypic uniformity but toward phenotypic plasticity. Natural selection favors above all else the ability to become rapidly adjusted to circumstances which change not only from day to day but, in a modern society, from minute to minute. Genetic differences may be retained, provided that they permit themselves to be eclipsed by the phenotype plasticity. Whether or not this trend has already run its full course must be settled by investigation and not by speculation. All that we can be reasonably sure of is that the evolutionary pattern of the human species is so different from those of the higher animals (not to speak of the lower ones) that judgments by analogy with respect to the psychic traits have little value. It may be that the non-pathological hereditary differences in behavior found among men are merely the uneroded remnants of genotypic specializations that were moulded by natural selection to fit the conditions of ages long past. Genotypes now emerging will perhaps predispose every individual to respond to every challenge that his environment may offer as a social rather than a solitary being.

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## *Sargent on Education*

BETWEEN TWO WARS: THE FAILURE OF EDUCATION, *1920-1940*, by Porter Sargent, Boston, 1945, 616 pp. $5.

The title is a crisp evaluation of the purpose of the book. The dedication reads: 'To those who courageously strive to change what we do to children under the guidance of the dead hand. For what we have done to children in the name of education has planted the seeds of resentment and frustration—has made all of us what we are today. So war begins in the nurseries, and in the chancelleries the choicest product of our system in perplexed predicament promote and provoke future wars.' In this dedication Sargent very concisely summarizes the main thesis of the book, and through the whole *opus* he documents heavily all his opinions and contentions. The author is a prolific, provocative, and warmly human writer who deals with education and world affairs in general. His annual *Handbook of American Private Schools* went through the 29th edition this year. These handbooks begin with valuable introductions, some of which have been reprinted separately. Their titles and descriptions are listed, and comments by important readers are given at the end of the book under review.

Sargent explains still further his aims: *Between Two Wars* 'reviews the writings and utterances of the leaders in the English-speaking educational world, explains how our mental content, our emotional reactions and behavior have been influenced by unsuspected forces and processes, educational and propagandal, which have brought us to our present sorry state.'

As usual in the writings of Sargent, the style is clear and full of life, with deep understanding of the endless professional volumes he has read and digested, and summarized brilliantly for his readers. The reader may be amazed at the exceptional amount and range of material covered in this bird's-eye view given by the experienced mature brain of one man, and not by a whole galaxy of co-authors.

The forward-looking reviewers and commentators as a rule are very laudatory about practically all of Sargent's writings. However, they usually miss some extremely important implications of the data about Sargent's background which

molded his point of view. I stress this because it explains his attitudes and his creativeness. As he himself puts it, 'I began teaching in 1890 and have been at it ever since in one way or another. I spent eight years looking through a microscope in neurological research and teaching science in the Browne and Nicols School, with summers in the biological laboratories of Alexander Agassiz at Newport and the U. S. Fish Commission at Woods Hole.

'After ten years of scientific training at Harvard, I escaped with my life and in the following ten years spent alternate years in Europe and round the world taking with me groups of boys preparing for college and interpreting to them other peoples, their culture, art, religions. That was my real education, learning to look out of the eye-holes of others at the world they lived in. Then my interest in Eastern art and desire to interpret the East to the West was frustrated by the First World War which turned me to the making of handbooks.'

The publishing of the handbooks of private schools necessitated his coming in close contact with education in the United States, with all its positive and negative aspects. So when Sargent speaks about education he certainly knows what he is talking about. But the main point which I want to stress is that his approach is scientific and fundamentally neurological, with a feel for the inter-relatedness of psychiatry and education, trying to understand what ails educators, and how much harm they can do to the poor victims. There is something especially sound about that particular kind of outlook; it is bound to be extensional and very human. With his background he could not miss the fact that education involves doing something to the nervous systems of the young people, and he could not miss what the reactionary, stultifying 'dead hand' of those in control of the educational system can do to the students.

We know the great names of Sigmund Freud and Adolf Meyer. Both of them were fundamentally neurologists, and that attitude shaped their whole work and neuropsychiatric achievements, with the result that Freud produced a new system and originated a new era in psychiatry. Dr. Adolf Meyer originated his revolutionary 'psychobiology,' which also deeply influenced the whole trend of psychiatry. Reading the works of Sargent, and I believe I am familiar with all of them, I venture to suggest that his neurological background was instrumental in producing his pioneering and constructive work in education.

It is impossible to do justice to such an encyclopaedia in a short review, and the reader must study the original to get the full benefit. Those who are interested in a non-aristotelian revision of education which will fit modern science and our nervous systems should not miss the study of this valuable book. Sargent, the scientist, by necessity is non-aristotelian and extensional, and with his background he certainly has the right to speak about education the way he does, which makes him a leader in education for the future.

He is unusually well equipped to write on *Human Affairs* (1938), *Education a Realistic Appraisal* (1939), *What Makes Lives* (1940), etc., *The Future of Education* (1944). He has rounded up his life experiences and studies in the present synthesis, *Between Two Wars: The Failure of Education,* 1920-1940. To quote Sargent, 'Awareness is growing, that ignorant conflicting forces that clash by night are man-made, man-aged, and may yet be changed by man.' But this will become possible only if we are conscious of the mechanisms of those 'retarding

forces [which] brought disappointment, frustration, stultification and again total World War.' 'To continue to hold control, non-creative forces destroy.' Such things must become known before we can build constructively for the future. Hence the importance of the volume under review.

I do not see how any educator or parent who really looks forward for the benefit of our youth can afford to miss this book.

ALFRED KORZYBSKI.

## *Modern Physician*

THE DOCTOR'S JOB, by Carl Binger, M.D. New York: W. W. Norton, 1945. 243 pp. $3.

This book by a practising physician, formerly with the medical research institute of the Rockefeller foundation and now on the staff of the Cornell University Medical School, represents an attempt to familiarize the laity with some of the everyday 'philosophy' of the practice of medicine in the past and in the present. As such it lets some of the skeletons out of the closet. Doctors no longer are looked upon as God-like, magical creatures with encyclopedic knowledge. Medical ethics, fees, the choice of a physician, advantages and limitations of the family doctor, and the role of the specialist are discussed.

Dr. Binger does not believe that magic need be invoked in an intelligent doctor-patient relationship. The importance of the 'transference situation' is touched upon and the appeal is for more understanding along these lines and less hocus-pocus.

One reviewer has said that the book should have been called 'The Psychiatrist's Job.' The book does emphasize the psychiatric (organism-as-a-whole-in-an-environment) implications of all illness. The psychosomatic viewpoint pervades the book; peptic ulcer, asthma, and hypertension are particularly discussed in their psychosomatic aspects. What is known about the relationship of personality structure to disease is made relatively simple and clear.

The book has an honest, down-to-earth quality, and a touch of humor. The psychiatrically trained person will probably learn very little from it. But it does have a contribution to make toward a better informed laity with a healthier conception of the role of the doctor and of psychosomatic medicine.

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## *Extensional Novel*

EARTH AND HIGH HEAVEN, by Gwethalyn Graham. Lippincott, 1944.

I am told that Gwethalyn Graham has, in addition to her excellent Canadian nurture, her Swiss schooling, her college training at Smith, and her Montreal bilingualism, a background of study in general semantics. I read *Earth and High Heaven,* which has been and still is an enormous popular success, partly because of the enthusiastic recommendations of discerning friends, partly out of curiosity as to the possible effects of general semantics on a novelist.

The story is an absorbing one, told without affectation and with genuine literary skill. It is the almost tragic love-story of Erica, a Montreal newspaperwoman of one of the 'best' Westmount families, and Marc, a shy, socially-awkward, thoughtful young lawyer and 'Jew.' Because we are told enough about the maturity of the couple, their love at first sight is not only credible, it seems entirely sensible. Their love encounters tremendous obstacles right from the start,

however, in the feelings of Erica's peculiarly fascinating father, who is a perverse mixture of sensitivity, conservatism, flexibility, obstinacy, and love. Threatened with the loss of his favorite daughter, he fixes his opposition on the fact that Marc is a Jew. He shrewdly predicts the effect his opposition will have on the unaggressive young man. He conceals his true estimate of the suitor from his daughter by a campaign of uttering in front of her coarse generalizations, vulgar jokes, unfeeling witticisms, etc., about Jews-as-a-class.

Shrewd as the father's predictions are about the reactions of the prospective son-in-law, they are far from shrewd regarding his daughter. She loves both men. Her father almost succeeds in breaking up her relationship with Marc; but in so doing, he breaks up her relationship with himself. An impossible situation that grows even more impossible as time goes on is described with perception and sympathy. Miss Graham is both skillful enough and sincere enough to make the reader feel intensely the hopelessness of the impasse.

The impasse is resolved, finally. But the close is by no means a factitious 'happy ending.' One is simply left feeling, as one often does when such impossible situations are overcome in real life, a sense of having been incredibly released from a nightmare. The book rings true to the end.

And what effects has general semantics had on the author as novelist? I should say very little indeed. Some of her comments and conversational passages, for example those dealing with the differences between the fiction, 'Jew,' and the reality, Marc Reiser, are more sharply revelatory than comparable passages in other novelists, because the author's awareness of semantic mechanisms enables her to diagnose the plights of her characters scientifically as well as intuitively. The insights into personality, for example, Marc's withdrawal in the face of opposition, show, in addition to accurate observation, the beneficial results of considerable psychological study. But the novel would still have been a good novel, I believe, without these scientific embellishments.

One way of describing the aims of general semantics would be to say that it tries to help more people achieve the kind of extensionality that good novelists always have, namely, insight into the conscious and unconscious motives of human behavior, into the difficulties encountered by individuals in dealing with an often hostile environment, into the subtleties of interpersonal relationships, and into the differences between the supposed and actual content of the institutions, symbols, and shibboleths of a culture. Gwethalyn Graham has such insight to a high degree —and this extensionality is a more important fact about her novel than the few excellent semantic formulations scattered here and there in it.

Since Miss Graham posseses the literary skill to communicate the results of her extensionality to others, I think it can be safely said of her (as one must say of anyone else, artist or scientist, who is making a marked contribution to public wisdom) that, in increasing the flexibility of her readers' evaluations and demonstrating before a large audience the damage that can be done with such a fiction as the word 'Jew,' she is doing more for general semantics than general semantics has done for her. I imagine that, if she had never heard of general semantics, she would still have been extensional.

S. I. HAYAKAWA.

# ✠ CORRESPONDENCE ✠

## *Evaluations of Combat Men*

SIRS: For five months I was with an infantry line company, and the greater part of that time was spent fighting through parts of the Maginot and Siegfried lines in southern France and Germany.

One of the things that impressed me most about certain unhealthy reactions I noticed in some of the fellows from time to time was that, while in civilian life the cost of a single instance of reversal of order of projection of interpretation onto facts might simply involve a misunderstanding or disagreement with someone or else a mistake in the job at hand, in combat the cost is too often sudden death or serious injury. The margin for error which civilian life offers is narrowed under combat conditions to a point where frequently one single mistake has fatal consequences. And the cases where we could later laugh at the mistake and turn it into a joke were ones in which unforseen factors, which we could not take credit for, intervened to keep the consequences from becoming fatal.

I well remember one moonlight night in Belgium when one of our guards gave the alarm that a parachutist had landed in a field nearby. Our outfit was holding positions well behind the front lines at the time, but it was just a short time after the German break-through in the Ardennes where paratroops had been used, so we were on the alert. In a few minutes a cordon of riflemen crouched around the spot where the 'German parachutist' was observed to have come down. But there was no sign of him. Our platoon guide shouted in German that if he did not come out, our men would shoot him out. No reply. Then a G.I. fired into the clump of bushes where 'the German' lay hidden. The next moment an extremely scared young A.A.F. lieutenant came out hands high, and calling out in a shaky voice, 'For God's sake, don't shoot!'

In the surprise and confusion of the next few minutes we learned he had bailed out of a flak-damaged B-17 and by his calculations was still over German-ground. When he heard that voice calling to him in German, he 'knew' he was on a German-held ground. And our men had concluded from the projection of their apprehensions onto the fact that he had remained hidden and silent, that he 'was' a German. Luckily, the shot that was fired had gone over his head.

On another occasion late one afternoon a platoon had attacked and taken three houses from the Germans, and from the cellar of one house, which must have been a German command post, twelve prisoners had been taken along with radio equipment, etc. This had been done very rapidly and without much firing as the enemy had been taken by surprise.

A few hours later, in the darkness of night, five more Germans came walking up the rubbled, cratered street in single file, then turned and started toward the cellar door of the house now occupied by

G.I.'s. The man on guard killed the first three with one shot, the other two were wounded and crawled away. Later, during the same night, other Germans approaching just as nonchalantly as the first group got a rather hot reception of hand grenades and rifle fire. And it was obvious from their manner of approach that they were not aware we were in that home.

Their expectation of finding their own men 'as usual' in this house led them into a minor slaughter. And the same mistake, through lack of communication, etc., had been repeated with fatal results during the night by other Germans.

After over a month of constant fighting, lack of sleep, etc., the lot of us grew extremely jumpy, and it was not rare at night for a man who was usually pretty calm and unexcitable to fire at 'Jerries' that his fatigued and over-cautious senses led him to 'see' in the shadows of trees and posts cast by the light of a parachute flare, or 'hear' in the sounds of a horse or cow wandering about in the dark. Men on guard began to report, not that they saw 'something that looked like a man,' but a 'twelve-man Jerry patrol dressed in snow-capes.' Smoke arising down the street would become 'one of our tanks knocked out and burning.' Certain men who felt the strains most acutely would report the distant sound of a motor or exchange of machine-gun fire as 'Jerries counterattacking with tanks,' and so on.

Fatigue and morbid alertness brought on by conditions of combat and tensions of watching and waiting easily bridge the gap between 'illusion' and 'hallucination.' Some slight movement or distant sound can lead a man to 'actually see and hear' by projection what he fears he might see or hear, what he has been so alertly expecting, what he wishes in desperation he *would see* to relieve the tensions of caution and waiting. And as a man becomes more rattled and jumpy the mechanisms of reversal of order seem to become increasingly powerful, to take over as saner evaluations lose hold and break down.

Another fact that has been hammered home to me during my army life is the almost inescapable intensionality of words and verbal reports. When not on the line, rumors of the 'next move,' of 'peace'; when on the line rumors of 'breakthroughs,' of 'counterattacks,' etc., barrage one constantly. And I've just about come to the point of automatically discounting a certain portion of what any verbal report or account or prediction may lead me to expect or fear or imagine, simply because it is a *verbal* report.

The trickiness of language, it seems, lies as much in what it gratuitously supplies and assumes as in what it leaves out. Then, too, in the very act of passing on a story, or making a verbal report of some event, whether you 'were there' or are dealing with second-hand material, you are always doing more than 'merely reporting' or 'story-telling.' You are speaking or writing to someone in a certain way, producing a certain effect, and that very act of speaking or writing has its special skills and customs, to influence, to entertain, which often run counter to its value as representing-the-facts.

I mean that besides the intensionality discoverable by analysis of language-structure, there prevails a sort of literary-journalistic intensionality of style. Are we not accustomed to suspense, climaxes, plenty of 'action,' unusual occurrences, happy endings, etc., in stories we read, movies we see, oftener than the facts allow?

Movie-makers and news-writers have unconsciously built up a fictitious intensional world of referents for the vocabulary in terms of which war events are largely reported. Headlines and stories

told us day after day for the months after D-day about 'German defenses crumbling,' 'Patton's army cutting Reich in two,' 'Such-and-such an outfit smashing its way through the Siegfried line . . .' Supercharged with dramatics and heroics, these huge nouns and hyperactive verbs daily floated before the reader's eyes as a distorted reflection of the slow painstaking movements of thin lines of men, tanks, and trucks fighting their way across huge distances against the enemy in the various freaks and monotonies of combat peculiar to each situation.

Needless to say, the war in sober fact hardly proceeds as fast as the headlines and news stories, which lead the reader to expect a certain 'allness' and 'finality' and speed in military operations which rarely if ever are witnessed by the men fighting. This in turn can not but produce feelings of frustration and impatience in civilian readers to whom the slow progress of the war and the lists of casualties must come as a series of anticlimaxes, each a 'shock' and a 'let-down.'

It is also important to remember in this connection that the 'big picture' which most commentators, headline- and news-writers attempt to give comprises abstractions pieced together from other abstractions from other abstractions, and therefore is not applicable to the experience of any one human sensory-nervous system. Roughly speaking, it is physically impossible for one person to observe first-hand the fighting on a scale larger than one battalion sector or of one armored spearhead. Yet when one human sensory-nervous system reads of the days' activities of five or six armies, he must have extensional content for such terms as 'Ninth Army spearheads,' and 'pincers of the Third Army,' and to what else can he turn, outside of newspaper maps, but to this fictitious world maintained by the movies and headlines?

I suspect that this situation also contributes a great deal to the civilians' lack of understanding of what they've been through felt by so many combat soldiers returned to the States. Yet it's curious to observe how frequently GI's themselves, in discussing the 'big picture' or the 'progress of the war' or any fighting but their own, retain this same orientation of maximum expectations and impatience and suffer its attendant frustrations and resentments. Because for the evaluation of the war on scales larger than the fighting their particular company or other small unit has been in, they too, interpret the news in much the same way the civilian does.

KARL POTTHARST

*Lüdinghausen, Germany*
*May 15, 1945*

## *'Naphtha'*

SIRS: '[Alexander] marched through the province of Babylon . . . and in Ecbatana was much surprised at the sight of . . . the stream of naphtha which . . . flows out so abundantly as to form a sort of lake. This naphtha, in other respects resembling bitmen, is so subject to take fire that before it touches the flame it will kindle at the very light that surrounds it, and often inflame the intermediate air also.'

I was reading Plutarch at about the time when discussion of the fire hazards of petroleum products was in my lecture program. I quoted this paragraph, with the comment that it described correctly what had been observed, but that Plutarch's discussion which followed showed that, naturally enough, he knew nothing of vapor pressure, vapor density, and temperature of ignition. Finally, I said that there is no doubt that the liquid was crude

oil, and not what we now call naphtha.

It seemed worth while to tie in an observation made nearly twenty-three centuries ago with accidents and with wartime and peacetime problems that are now of major importance. Also, there was a temptation to lure a few students of engineering into feeling that the old names—Babylon, Media, Persia, Mesopotamia—must come to mind when we hear now of Iraq, Iran, and the Near East, and that although Alexander never heard of Standard Oil or Royal Dutch Shell, he saw what they seek.

It worked, up to a point. Most of the students got it. But one earnest young man asked, 'If it was crude petroleum, why did the Greeks call it naphtha?'

J. B. FINNEGAN

*Professor of Fire Protection Engineering*
*Illinois Institute of Technology*
*Chicago*

## *Count$_1$ and Count$_2$*

SIRS: On a recent visit to New York, I noticed a subway advertisement which said, 'Some words fool you. *Count* means [picture of a European nobleman]; *count* means [picture of man counting money]. But Ballantine's Ale and Beer *always* mean . . . Purity, Body, Flavor.'

The copy-writer for this advertisement may or may not have been exposed to general semantics—I suspect he has. But can anyone produce a better example in support of Hayakawa's assertion in *Language in Action* that the purpose of much advertising is to create favorable signal reactions to brand-names? Be as semantically wise and as extensional as you like about the word *count*, or about any other word, the copy-writer says, but *not* about our brand-name!

P. D. HAAK

*Dodd, Indiana*

## *Sociology of Semanticists*

SIR:

What kind of people become interested in general semantics? Mr. Whitney's stimulating note in the Summer, 1945, *ETC.* seems to me to suggest this further question. And its corollary, what kind of people fail to appreciate or understand the merits of general semantics?

It would seem that through the Society a study attempting to answer these questions might be made. Sociologists of knowledge have shown that the adoption of any intellectual viewpoint, philosophical doctrine, etc., is a function of the social origins of those concerned; psychoanalysts and those influenced by them have demonstrated that personal motivations and 'temperament' are important determinants.

From my own observation, I would be inclined to agree with Mr. Whitney's statement with one reservation. What alienates *some*, may attract others. The question is: who are the some? and who are the others? or, if you like, what does what to whom? It would be valuable to make a follow-up study of all those who have attended Korzybski's seminars and find out what differentia existed between those who went further and those who left with indifference or hostility towards general semantics. It might be stimulating to discover what first attracted members of the Society to general semantics, what they think they got out of their knowledge of it, what reservations they have about it. We could then develop Mr. Whitney's hunches more systematically and flexibly; and we would then be in a stronger position to analyze the contributions and weaknesses, the role and function, of general semantics in the lives of general semanticists.

LEWIS A. DEXTER

*Chicago, Illinois*

# ✯ NEWS AND MISCELLANY ✯

## *Membership Increases*

Because of the energetic membership campaign directed by the Society's business manager, Anne Coleman, there has been a large increase in enrollments. There were 290 members as of June 15. Our membership is now in the neighborhood of 750.

The ninth issue of *Quote*$_8$ has been distributed. (*Quote*$_7$ to *Quote*$_{11}$ are being edited by a committee of New York members.) If *ETC.* could only be got out on time—this issue is three months late—the Society would be in fine shape.

## *Rules for Local Chapters*

In response to requests from different parts of the United States as well as from the British Isles, Canada, and Australia, the Governing Board of the Society, at a meeting on November 2, 1945, drew up the following regulations regarding the formation of local chapters, with the understanding that they would be modified or strengthened according to the needs revealed by future experience.

1. Each local chapter of the Society shall have, to as great a degree as possible, local autonomy.

2. Each member of a local chapter shall also be a member of the national Society.

3. When ten or more members from a given area shall send in their names and the names of their Chairman and Secretary, and consent to turn in a report at least once a year to Society headquarters on their activities, membership, etc., they will be issued a letter recognizing their group as a chapter of the Society for General Semantics.

4. Names of chapters should indicate their geographic location; *e.g.* 'The Chicago Chapter of the Society for General Semantics.'

The Governing Board also decided that the headquarters of the Society shall provide aids in the planning of chapter programs and activities whenever such aid is requested. The Society shall also notify the Secretary of each chapter of all memberships received from within his area as soon as possible after they are received.

## *Pasadena Chapter*

Although discussion of the formation of chapters had been going on with members in other cities for some months, members in Pasadena, California, have been the first to apply for, and receive, formal recognition as a chapter of the Society. The Pasadena Chapter entered with 11 members. Robert L. Read, of Read and Company, is President of the Chapter; Gregory E. Lawrence, teacher of English at Glendale High School, is Secretary.

## *Symposium at N.Y.U.*

The Division of General Education of New York University, Washington Square, is presenting a symposium, 'An Introduction to General Semantics,' Fridays, 8:10 to 9:55 p.m., from September 28 to January 25. The chairman is Captain Edwin Green, who began his study of general semantics in the summer of 1940. He conducted the first newspaper column in the field, 'General Semantics and Human Affairs,' in the Los Angeles *Daily News*.

The introductory lectures by Captain Green are being followed by: 'Applications of General Semantics in Clinical Medicine,' Dr. Samuel Rosen, otologist, Mt. Sinai Hospital; 'Property Evaluations in Business,' W. Benton Harrison, assistant treasurer, General Aniline and Film Corp.; 'Language as Art,' Dr. Charles I. Glicksberg, teacher of English, South Side High School, Newark; 'The Literature of Semantics,' Allen Walker Read, Illinois Institute of Technology; 'Evaluating Personal Problems,' Frances Farmer Wilder, Columbia Broadcasting System; 'The Ways and Means of Persuasion,' Lambert Montgomery, investment analyst; 'Non-verbal Maps,' Kurt S. Safranski, teacher of pictorial journalism; 'Signal and Symbol Reactions in Business,' Seymour L. Nathan, secretary of Charles S. Nathan Corp. and President of Office Furniture Association; 'Mathematics, a Language,' O. D. Wells, graduate research worker in biology and mathematics, Columbia and N.Y.U., and investment analyst.

## *Items*

'General Semantics in Business' is the title of a new course at the University of Denver, starting September 27, offered by Dr. Elwood Murray. It is described as presenting 'a general scientific method for the improvement of personal adjustments, human relationships, and morale' and is 'designed especially for executives, foremen, and supervisors' to offer assistance where 'individual and group tension, inflexibility or prejudice, impulsiveness, mental barriers, etc.' are encountered. . . . Thirty-five students are enrolled in S. I. Hayakawa's introductory course in semantics (English 375) in the evening division of Illinois Institute of Technology; fourteen are enrolled in his advanced class 'General Semantics' (English 376). . . . Dr. Irving J. Lee, having completed his service in the Air Corps, is now back at Northwestern University where, among other things, he will be in charge of the Mutual network discussion program, 'The Reviewing Stand.' . . . Captain Anatol Rapoport, also with the Air Corps during the war, has returned from India and is now home in Chicago, with another manuscript for *ETC.* The editors are still receiving congratulatory messages regarding his last article, 'The Criterion of Predictability,' which was published in the Spring 1945 issue.

Arthur Minton, whose article on the semantics of Quiller-Couch appears in this issue, has a study of New York apartment-house names in the current issue of *American Speech* (October, 1945). . . . The pressure of other work has compelled Edwin S. Hewitt to resign from the Governing Board. Mr. Hewitt was a member of the original Chicago executive committee that organized the Society. His successor has not yet been named. . . . Dr. Francis P. Chisholm, author of *Introductory Lectures to General Semantics* is now chairman of the Department of English, State Teachers College, River Falls, Wisconsin. . . . Miss Elizabeth Glenn has been appointed assistant to the business and editorial staff of the Society.

## *Meeting on Atomic Bomb*

Chicago members of the Society met at Roosevelt College on November 16 to hear Dr. Melvin Friedman of the University of Chicago Metallurgical Laboratories speak on the social and political implications of the atomic bomb. The editors are trying to secure his manuscript for publication in the next issue of *ETC.* Some 200 members of the Society and their guests were present.

Mr. F. W. Coleman, who acted as chairman, announced that Mr. Rex Wicklund will be chairman in charge of arrangements for the winter lecture series, and that Mrs. Lillian Wolfson will be chairman of the committee for the organization of the Chicago chapter of the Society for General Semantics.

## *San Francisco Seminar*

Alfred Korzybski gave a seminar from October 26 to November 8 at San Francisco State College, San Francisco, California, under the sponsorship of a local committee consisting of *E. Morris Cox*, Dodge and Cox Co., Investment Management, chairman; *Karl Bowman, M.D.*, Professor of Psychiatry, *Paul Gliebe, M.D.*, Associate Professor of Psychiatry, *Ernest Falconer, M.D.*, Clinical Professor of Medicine, *W. W. Wainwright, D.D.S.*, Associate Professor of Dental Medicine, University of California Medical School; *Elias T. Arnesen, Ph.D.*, Professor of English, San Francisco State College; *J. Gordon Spaulding, Ph.D.*, Professor of English, Stockton Junior College; *Alfred C. Reed, M.D.*, Associate Clinical Professor of Medicine, Stanford University; *Hobart Rogers, M.D.*, Associate Professor of Medicine, Highland Hospital, Alameda County, California. There were forty-one registrants in the seminar.

On November 13, Korzybski also gave a lecture at the University of California in Berkeley at the invitation of the Department of English. Some 500 people were present.

## BOOKS RECEIVED

[Mention in this section does not preclude the possibility of more extended notice in subsequent issues.]

BRIN, JOSEPH G. *Help Yourself to Better Speech.* Speech Arts Press. $2.75.

CHASE, STUART. Men At War, Harcourt, Brace & Co. $2.

COLCORD, JOANNA CARVER. See *Language Comes Ashore.* Cornell Maritime Press. $2.25.

DORCUS, ROY M. and SHAFFER, G. WILSON. *Textbook of Abnormal Psychology.* Williams and Wilkins. $4.

FIELD, MARSHALL. *Freedom Is More Than a Word.* Univ. of Chicago Press. $2.50.

HADAMARD, JACQUES. *The Psychology of Invention in the Mathematical Field.* Princeton U. P. $2.

HOOTON, EARNEST. *'Young Man, You Are Normal': Findings from a Study of Students.* Putnam. $2.50.

LEIGHTON, ALEXANDER H. *The Governing of Men.* Princeton U. P. $3.75.

MALINOWSKI, BRONISLOW. *The Dynamics of Culture Change.* Yale University Press. $2.50.

MCCRIMMON, JAMES M. *Essays for Freshman.* Harcourt, Brace & Co. $1.60.

MONDRIAN, PIET. *Plastic Art and Pure Plastic Art.* Wittenborn & Co., 1945. $2.25.

SCHROEDINGER, ERWIN. *What Is Life?* Macmillan.

SMITH, SIDNEY URE. *Present Day Art in Australia.* Ure Smith Pty. Ltd., Sydney. 21-s.

STEVENSON, CHARLES L. *Ethics and Language.* Yale University Press. $4.

## INTENSIVE SEMINAR AND TRAINING COURSE IN NON-ARISTOTELIAN METHODOLOGY AND GENERAL SEMANTICS

Beginning December 27, 1945

The winter-holidays course in General Semantics and Non-Aristotelian methodology begins on December 27. The first part, which consists of thirty-six hours of class lectures, demonstrations, and training by Alfred Korzybski, author of *Science and Sanity, Manhood of Humanity,* etc., and Director of the Institute of General Semantics, ends January 2, 1946. From January 3 through January 10, there will be a program of class and individual work-conferences under the direction of M. Kendig, Associate Director, assisted by visiting consultants. These work-conferences will offer opportunity for extended discussion, and special emphasis will be placed on the applications of general semantics to the various fields in which students are interested.

The seminar and work-conferences are intended for those interested in education, at all levels of instruction; in psychosomatic medicine, mental hygiene, and group work in rehabilitation; in mathematics, science, and applied science; in the social sciences; in communication, journalism, radio; in minority problems and race relations; in community group work, personnel and general human relations in business and industry. They are also open to those who have recently become acquainted with General Semantics and have some familiarity with the literature in the field.

Enrollment is limited to thirty. Registration form should be requested and returned to the Institute of General Semantics with registration fee as early as possible. Tuition charges are $100 for the entire program, December to January 10; $75 for the Intensive Seminar with Korzybski, December 27 to January 2. Registration fee of $10 is included in these charges.

Scholarship grants are available: five grants are open, covering one-third to two-thirds of tuition. The Grossman Memorial Scholarship, which includes travel stipend, is restricted to the psychiatric profession. There is a special reduction in tuition for former seminar students. World War II veterans may attend under Public Law 346 (the G.I. Bill).

Address Miss M. Kendig, Associate Director, for registration forms and further information about the Institute, publications, seminars, and courses.

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